

THE
SOUTHERN AGRICULTURIST.

SEPTEMBER, 1838.

PART I.

EDITORIAL AND ORIGINAL.

Report of the "St. Andrew's Agricultural and Police Society," on certain Resolutions, adopted and forwarded to the St. John's Agricultural Society.

Your Committee, who were appointed at your meeting in April last, to respond to the Resolutions sent from the St. John's Agricultural Society, have entered upon their duty with great diffidence, being aware of the great importance, involved in the questions propounded in those Resolutions.

Your Committee, however, after diligent investigation, report,

1st. That they would deem it superfluous to enter into a discussion of the principles of slavery—an institution sanctioned by Christianity, and one which has existed throughout all ages—and have therefore proceeded to examine the state of the abolitionists. At first, they consisted of but a few ambitious persons; but now, we find that, by the aid of ably conducted presses, a spirit of fanaticism has been disseminated among all classes of the non-slave-holding States. They have divided themselves into well organized societies, and bent upon one great object, they unite themselves with the great contending parties, so as to control the majorities. In some of the States, they have formed themselves into powerful political parties, and have made their principles a test question at their elections; and in a few of the States, they have gained the entire ascendancy. Indeed, the spirit of abolition lives in the breast of almost every individual

throughout the non-slave-holding States; there are many, it it is true, who are restrained from interference on this subject, from a regard to the Union and our constitutional compact. Daily are their presses pouring forth the most atrocious libels on us, and by the warmest appeals, arousing the passions and exciting the sympathies of whole communities,—many of them conscientious persons,—against our institution of slavery. They openly declare that it is their intention to use their strongest efforts to abolish slavery in the District of Columbia, and we perceive that it is also their design to effect the same throughout the Union. Many of the States now professing these principles, possessed slaves as long as they were conducive to their welfare, and then, they discovered no outrage against their revealed religion; but when, from the great influx of a laboring class of white population into their territory, who, from their hardy and industrious habits, and the congenial climate of those States, and the peculiar kind of labor required, that class of people could be made subservient to interest with much less trouble and expense, it then became expedient to employ them, and slaves became a tax upon their owners. Then, and not till then, did they discover that it was wrong, nor until then did they feel that kind sympathy for their slaves—that remorse of conscience, dictating that slavery was not in accordance with those principles which should reign in their civilized country, and in this enlightened age. While the protective system existed, and our interest could be sacrificed to theirs, where were the abolitionists? We then heard nothing of them. That philanthropy was not then exhibited, which has now discovered that it is a blot upon our republic, that this institution of slavery should be continued—an institution, by the aid of which, our great republic has been established; for without it, no republic has ever prospered—an institution by which commerce is furnished to the United States, and also to a large portion of the world. Their ancestors felt no compunctions of conscience in entering into the Federal compact, when that same institution existed among our ancestors. They were wise, and perceived that it was the only source from whence their wealth could be derived. Now that their descendants have been enriched, they do not feel their dependance upon us for the continuance of their opulence, but vainly imagine,

that without them, we could not prosper or keep our slaves in proper subjection—that there is too great a want of unanimity in the slave-holding States to oppose them successfully, or to pursue such an independent course as would endanger a separation from the Northern States. But the time has now indeed arrived, when we should convince them to the contrary, and adopt such measures as will prevent the abolitionists from interfering with our institution, and thus defeat their diabolical design. For the accomplishment of this desired end, we would recommend as our only sure and peaceful remedy, that we should place ourselves in such a situation as would manifest to the Northern States our independence of them, and to make them feel that, that very institution of slavery gives us a pre-eminence in the commercial world, which will enable us to establish our prosperity without their assistance, and that our continuance in the Union is simply from an attachment to the Constitution, that sacred legacy bequeathed us by our ancestors. At once, show them that the slave-holding States are united upon that great principle, and that at the first interference of Congress or any other body to abolish slavery in the District of Columbia, they are prepared and determined to secede from the non-slave-holding States, and to form a Southern Republic. Let them reflect on our relative situations, and they will soon perceive that we are of more importance to them, than they to us—that with our ports made free, and all the products of the South and West, we could support an extensive commerce, and compete with the world.

In furtherance of these views, we would recommend that the planter should encourage all works of internal improvement, which may be deemed capable of promoting and facilitating a free and friendly intercourse between the slave-holding States. To endeavor to establish and equalize a good and substantial currency among them; and lastly, that he should use his strongest efforts to promote a direct trade with Europe. Should, unfortunately, however, the spirit of abolition be so firmly rooted in the breasts of these fanatics, as to induce them to risk the issue, let us constitute the District of Columbia the threshold of the temple of our institution, and let us stand by it and defend it at all hazards, and if we must fall, to perish amid its ruins.

2dly. On the subject of investment of the surplus revenue of the planter, your Committee briefly report, that from the foregoing review of the present political state of the Union, they would deem an investment in the great Western Rail Road, and in any such companies as may be formed for the establishment of a direct trade with Europe, sources calculated not only to afford a profitable return to the planter, but also to establish wealth and prosperity among all classes of the slave-holding States—sources, well calculated to unite Southern interests, and to combine the efforts of the West in supporting in common with us, true Southern principle. Once establish those great undertakings, and what must be the result? Instead of being dependant on the North for our imports, and for the use of their shipping, paying a tax to their commission merchants, to their wharf-owners, to their ship-owners, and to their laborers, all of these expenses would be saved; and to whom would they be saved? To the planter, undoubtedly. For it is an undisputed fact, that the consumer pays the tax. And therefore,

Be it Resolved, That whereas, from the foregoing representation of our political state, it is the opinion of the St. Andrew's Agricultural and Police Society, that a dissolution of the Union may be unavoidable, in which case, dependence upon the North would be impolitic, humiliating, and much to be deprecated.

Resolved, That the most efficient measures which the planter could adopt, permanently to defeat the abolitionists, would be to unite the slave-holding States in interest and feeling.

Resolved, That the planters, by lending all their energies and means to the final and successful accomplishment of the Rail Road communication to the West, and the direct trade with Europe, will unite the interests of the slave-holding States, and open to themselves an immediate source of profit, and confer upon their country and posterity an invaluable blessing.

Resolved, That it is the duty of every Southern member of Congress, to be vigilant to resist the earliest attempt on the part of the abolitionists to establish their principle within the District of Columbia, or any Territory of this Union.

*To the Proprietors of the Poorest Soils in all the Southern
and South-Western States.*

The subscriber respectfully presents a plan to render valuable all your poorest lands, by giving one half of the whole to actual cultivators, and by thus creating a dense population of small cultivators, and of family manufacturers, in the least settled and most sterile districts of the South and South-West. In the more elevated districts of the interior, especially near the common boundaries of the Carolinas and Georgia, on the one side, and Tennessee and Alabama, the future Tea country of the United States is to be found. In a still wider range of sterile soils, will be found the most productive region for the Silk Mulberry and Silkworm. Over a still greater extent of comparatively worthless lands, the *fibrous-leaved* plants are indigenous to the country, and hence there will be the fields for the production of foliaceous fibres, or superior substitutes for flax and hemp. As regards the propagation of the Tea plant, it is well known that the best tea districts of China are situated in similar climates; and it is further well known, that the Chinese themselves always plant this shrub in their most sterile soils and worthless sites, where no other cultivated plant will profitably grow. You should also know that this tea plant ripens its seeds in the open air at Charleston, S. C., and moreover, that even at Marietta, Ohio, John Platt, Esq., has successfully cultivated the shrub since 1826, and offers the seeds for gratuitous distribution. In respect to the Mulberry, I find that even in this State (New Jersey) the people have become convinced that its propagation is the most profitable business in which its farmers can engage; that New-England men find it profitable to come here and *hire* lands for nurseries of the *Morus Multicaulis*, to supply the farmers with young trees; that the facilities for rearing the cocoons have been immeasurably increased by labor-saving management; and that even the reeling the raw silk from the cocoon, and spinning it into thread at the same time, can now be effected by the light labor of a child—thanks to the mechanical ingenuity of our countrymen—by which means we shall be able to furnish silk manufactures in our own families, both better and cheaper than they can be obtained from

China. The Legislature of this State has granted a premium of fifteen cents a pound for cocoons raised in New-Jersey, and this bounty alone appears sufficient to encourage the silk-culturist, although I am informed that Pennsylvania has decreed a still higher premium.

As regards the propagation of fibrous-leaved plants, and the production of foliaceous fibres, I refer you to the articles and plates on this subject, contained in the Reports of the Committees on Agriculture in the House of Representatives and Senate of the U. S. Congress, made on my Memorial to encourage the introduction of Tropical Plants. I refer you especially to the last twenty-two pages of the House Report, and to the twenty-four plates appended to the Senate Report. If you are unwilling to study the subject yourselves, all that will be requisite to have it experimented by others, will be to publish the localities in which your fibrous-leaved plants are most abundant. As soon as it is known by your Northern brethren that certain districts of your poorest lands are covered with indigenous Agaves and Yuccas, they will transport themselves and their inventive powers, and their labor-saving machinery, to those very districts, for the purpose of extracting from the *green living leaves* of your Bear Grass, Spanish Bayonet, &c., those superior substitutes for Flax and Hemp, now so extensively used throughout the United States.

In relation to the production of either the Tea, the Silk, the foliaceous fibres, or of all three branches of agriculture, my plan for you to have it effected without any labor, and yet with great profit to yourselves, is briefly as follows : Divide all your uncultivated land into two equal portions. Let the one half remain attached to your present cultivated fields and dwelling houses ; and let the other half be divided into lots of twenty acres each. Then insert advertisements in the papers of the Northern States and of Europe, stating that you will give one lot of twenty acres to every worthy family of small cultivators, which, with its own hands, in five years, will cultivate ten acres in the plants which yield Tea, Silk or Foliaceous Fibres.

Let the Legislatures of your respective States, moreover, offer any reasonable premium for every pound of either product which may be created within the same five years ; and my word for it, you will soon have your

desert districts covered with a dense population of small cultivators and of family manufacturers, who will not only render highly valuable your remaining lands, but who will also insure prosperity, tranquility, and safety, to the whole Southern community.

HENRY PERRINE,
of Tropical Florida.

25th July, 1838.

Calculations for Measuring Corn.

Greensboro', Ala., August 1st, 1838.

Mr. Editor,—In Vol. 8, December 1835, No. 12, of the Southern Agriculturist, a correspondent over the signature of 'B.' gives several modes of calculating the contents of a binn of corn. By his calculation, I find that a pen ten feet high, wide and long, will contain four hundred bushels. Now although I have never seen the trial made, I have always understood that such a pen would contain, when filled, five hundred bushels. If you or your correspondent have witnessed an experiment to prove the correctness of your mode of calculating the contents of a binn, or either of his modes, I shall feel greatly obliged if you will inform me, as it is a matter of some interest with me.

Respectfully, yours,
JS. CROOM.

In reply to Mr. Croom, we must say, that we cannot speak practically. We have never seen the calculations tested by actual measurement; but have them from such a source, that we have never doubted their being sufficiently accurate for any of the purposes of the planter or corn merchant. The only question to be settled is, whether or not 2,150 2-5ths cubic inches, make a bushel. If so, the rules are sufficiently correct for any ordinary purpose. The only exception to be made, is to the number of cubic inches assumed to be in a bushel, which is 2,160. This is done merely to facilitate the calculation of the contents of a binn. If critical exactness be required, you must, according to rule, use 2,150 2-5ths, as the divisor. To do this, you must reduce the bushel (2,150 2-5ths

cubic inches) and the contents of the binn, to 5ths, and to ascertain the parts of a bushel, the remainder must be apportioned to the divisor. After all, in some instances, a fraction so minute will be left, as almost to defy intelligible expression. Using 2,160 cubic inches, or 5 quarters of a cubic foot for a divisor, will make the contents of a binn a trifle less, but you will be repaid by the saving of the time and trouble of making an elaborate calculation. Our correspondent B. says, "perhaps some would like to know why the different methods produce the same result," but neglected to gratify those who feel a curiosity on the subject. Here follow B's tables :

$$\begin{array}{r}
 \text{" Binn,} \quad 14 \text{ feet length.} \\
 \text{Multiply} \quad 17 \text{ feet wide.} \\
 \hline
 98 \\
 14 \\
 \hline
 238 \\
 \text{Multiply} \quad 7 \text{ feet deep,} \\
 \hline
 1666 \\
 \text{Multiply} \quad 4 \text{ cubic,} \\
 \text{Divide } 5 \overline{)6664} \\
 \quad 1333 \text{ in the cob,} \\
 \text{Nett } 666 \text{ bushels.}
 \end{array}$$

"I will give you a similar one used by one of my neighbors.

$$\begin{array}{r}
 \text{Binn,} \quad 14 \text{ feet wide,} \\
 \text{Multiply} \quad 17 \text{ feet long,} \\
 \hline
 98 \\
 14 \\
 \hline
 238 \\
 \text{Multiply} \quad 7 \text{ depth,} \\
 \hline
 1666 \\
 \text{Multiply} \quad 8 \\
 \quad 1332(8 \text{ strike off the right hand figure,} \\
 \quad 666 \text{ Nett bushels,}
 \end{array}$$

"My own plan is plainer than either of the others, and I think, therefore, preferable.

$$\begin{array}{r}
 \text{Binn,} \quad 14 \text{ feet wide,} \\
 \text{Multiply} \quad 17 \text{ feet long,} \\
 \hline
 98 \\
 14 \\
 \hline
 238 \\
 \text{Multiply} \quad 7 \\
 \text{Divide by } 5 \overline{)1666} \\
 \quad 333 \text{ subtract the quotient from the di-} \\
 \text{Divide for cobs by } 4 \overline{)1333} \quad \text{vidend.} \\
 \text{Nett } 666 \text{ bushels."}
 \end{array}$$

As confidence cannot be given any rule not understood, we will supply B's omission. In all of them, the calculations are based upon the assumption, that 2,160 cubic inches, or 5 quarters of a cubic foot, make a bushel—proof, 1728 inches make a foot, 432 make a quarter, the two together make 2160. The inches are kept out of view, and the quarters only are used. Hence the contents of the binn as calculated in the first rule, are multiplied by four, to ascertain the quarters, and divided by five, to give the bushels—five quarters making a bushel. In the 2d rule, the contents are multiplied by 8, because instead of quarters, the cubic foot is divided into eighths; the product being eighths, is decimated (or divided by 10) because 10 eighths make 5 quarters of a foot, or a bushel. In the 3d rule, the contents are immediately divided by 5, because five cubic feet make four bushels, and the quotient is subtracted. When the contents are reduced to quarters, every fifth quarter is thrown to the other four to make *one* bushel; in like manner the 3d rule throws every fifth bushel to the other four, to make *four* complete bushels. The *actual* bushel of 2,150 2-5ths cubic inches, will make the contents of the binn subjected to the above calculations, (17 by 14 and 7 feet high) contain 669 3-8ths, instead of 666½ bushels—a difference of 2 7-8ths bushels—much too paltry to justify actual measurement. A little attention to the rationale of the rules as here given, will show why they all “produce the same result.” We advise Mr. Croom not to purchase cubic binns of 10 feet for 500 bushels, as he will get in fact but 401¾ and 1-7th bushels; what he would not purchase, he will of course not sell. When the crop is gathered, we will test this rule ourself, if the time can be spared, and we have space to throw aside loose corn. Such is our confidence, however, in the correctness of the rules, that we have no hesitation in recommending their use, to all who may be so fortunate as to have large binns well filled.—*Editor*.

If Mr. Croom wishes to know how to feed out shelled corn and oats to his people and horses, he may make binns 32 inches square and 42 deep, all in the clear, and when struck, they will contain exactly 20 bushels, of 2,150 2-5ths inches.—*The Devil. (Printer's of course.)*

Remarks by the Editor.

The subject of the St. Andrew's Report, is one of vital importance to the slave-holding States, and that we should hold all impertinent meddling with it, proof of hostile feeling towards us, cannot surprise any reflecting man. Than the course pursued by the abolitionists, nothing can be more reckless of consequences to ourselves, and to the whole Union. Deaf alike to our remonstrances, the dictates of reason, and the injunctions of that religion they pretend to revere, they *speechify* each other into wild, frenzied notions of philanthropy, and rush madly forward to the consummation of their treasonable, unholy designs. Designs destructive of our rights, subversive of this government, and utterly unsanctioned by those holy scriptures, they so impiously distort to suit their vile, and fiendlike purposes. We do not disapprove the action of Agricultural, and others of our Societies, on this momentous subject, but as reason and true religion have failed to arrest the fanatics in their mad career, we cannot hope denunciatory resolutions will meet with better success. The action should be of a different, and more vigorous kind—it should be directed solely, to depriving the fanatics of all pretence for interfering with matters which do not concern them; or, to such measures, as will compel silent acquiescence in the rights we claim under the constitution. The first may be effected by a retrocession of the District of Columbia—the second, by *non-consumption* of Northern productions; an extreme measure we confess, but to be justified by a determined perseverance in the design to deprive us of our property, overturn our institutions, and produce a condition of things, the contemplation of which, would blanch the cheek of the boldest, and sicken unto death, the heart of the true philanthropist. We think every effort should be made, and unceasingly made, by all the slave-holding States, to procure from Congress a retrocession of the District of Columbia, to the States of Virginia and Maryland. No possible injury, can result to the Union from such a measure. The government wants only certain parts of it for specific purposes (as in this State) and over those parts their jurisdiction can be reserved. These lots or yards, being devoted to the public service, and occupied by

officers of the government; and Congress being no longer the local legislature of the District of Columbia, the abolitionists would be driven from their ground, and we think forever. Should this hope fail us, we have suggested a sure remedy. We are for killing, not scotching the snake—aye, even for bringing its head between the anvil and the sledge. Make the whole of the Northern people *feel* the want of our market, and we are no prophet, if the abolitionists be not suddenly frowned into merited contempt. There is scarcely a product of the North, which we cannot procure from Europe on as good terms, as from those we are willing now, and ever, to consider brethren. What will supply to them the loss of the Southern market? We do not know, but it is not difficult to predict what would be done to recover it. Within twelve months, the Legislature of each non-slaveholding State, would pass such laws in relation to inflammatory publications, whether in the shape of newspapers, pamphlets, or coin, as will secure us the tranquil enjoyment of our rights. It may be said our suggestion, our remedy is violent, and may lead to revolution. Drastic doses are sometimes necessary, and we propose to administer ours as the preventive of a political revolution, and as the means, of effecting a revolution in public sentiment at the North. Ours, are shrewd, calculating brethren, and before they attempt to *force* us to consume their productions, the cost would be calculated, and they would find the odds vastly in favor of gagging the abolitionists. As the Southern *people*, and not the Southern Legislatures, would be the actors in this struggle for the preservation of our institutions, our Northern fellow-citizens, could not complain of the measure as unconstitutional, however unpalatable it may be to them. It is therefore, a peaceable remedy, or at least, should be so. If however, it should prove otherwise, the sin will not lay at our door—the end will be the same, as the abolition frenzy uncontrolled, must soon or late arrive at. *Abolition is the plain open road to Revolution—bloody Revolution!* Southern men see it, feel it to be so, and if come it must, will be prepared to meet it. Threats are idle; they but excite the sneers of the demon abolitionist—let us put our shoulders to the wheel, and Hercules will help us; let us *resolve*, and fearlessly execute our resolves. Then will we, and not before, roll back upon the motley crew,

a tide that will overwhelm them forever. *Non-consumption of Northern productions*, is a safe and certain preventive of *Revolution*, and possibly the only one. Contemplate it—its aspect is fair and peaceful—FEAR IT NOT. The Northern people, black and white, abolitionists and all, know full well the difference between Southern *gold*, and abolition *copper*.* We pledge our word for it.

Hard Times.

Charleston, August 24, 1838.

Mr. Editor,—In my desultory readings, I picked up an old book, and looking into it, my eyes accidentally rested upon the following words, "Cause of, and cure for, hard times," which seeming apropos to the present, I sat myself down and read the piece. It bears date 1787, but is as true this day as it was then, or my experience of sixty years is worth nothing. It is a glass in which many of my acquaintances may look and discover a better portraiture of their circumstances and the causes of their embarrassments, than they can in the pannels of a coach, be they polished never so well. Never did limner transfer to canvass a truer likeness of the living man than this farmer's homely account of himself, does of the affairs of most people of the present day. Probably I think so, because I feel it is applicable to myself; if that be all, 'tis well, and I am heartily glad of it, but I fear much 'tis not, and I fear many like the "farmer" live beyond their means, and find their estates fast slipping through their fingers. To such I recommend the farmer's plan, break the neck of extravagance, sell the "tea-kettle," and live as in the good olden time, within their incomes, whatever they may be. To owe nothing, is to be independent, and without independence, no man can

* We have seen abolition copper in the form of a cent. The cent is now in common use among us, and this base resemblance in form and weight, was received as one in taking change. On one side the following words were inscribed in a circle, "*United States of America*," and directly across the coin was the word "*Liberty*," in large capitals. On the other, a female slave was represented on her knees and in chains, surrounded by the following inscription, "*Am I not a sister?*"

Let those who utter these base coins beware.

be rich. But let the farmer speak for himself—let his brethren read and be instructed.

“*Mr. Printer*,—I profess myself to be an honest farmer, for I can say that no man could ever charge me with a dishonest action. I see with great grief, that all the country is afflicted, as well as myself. Every one is complaining, and telling his grievances: but they do not tell how their troubles came on them. I know it is common for people to throw the blame of their own misdeeds upon others, or at least to excuse themselves of the charge. I am in great tribulation; but to keep up the above character of an honest man, I cannot, in conscience, say that any one has brought my troubles on me but myself. “Hard times—and no money,” says every one. A short story of myself will show how it came “hard times—and no money” with me, at the age of sixty-five, who have lived well these forty years.

“My parents were poor; and they put me at twelve years of age to a farmer, with whom I lived till I was twenty-one. My master fitted me off with two stout suits of homespun, four pair of stockings, four woollen shirts, and two pair of shoes. At twenty-two, I married me a wife, and a very good working young woman she was. We took a farm of forty acres on rent. By industry, we gained a-head fast. I paid my rent punctually, and laid by money. In ten years, I was able to buy me a farm of sixty acres, on which I became my own tenant. I then in a manner grew rich; and soon added another sixty acres, with which I was content. My estate now increased beyond all account. I bought several acres of outland for my children, who amounted to seven, when I was forty-five years old. About this time, I married my oldest daughter to a clever lad, to whom I gave one hundred acres of my outland. This daughter had been a dutiful working girl: and therefore I fitted her out well, and to her mind: for I told her, to take of the best of my wool and flax, and to spin herself gowns, coats, stockings, and shifts: nay, I suffered her to buy some cotton, and make into sheets, as I was determined to do well by her.

“At this time, my farm gave me and my whole family a good living on the produce of it; and left me, one year with another, one hundred and fifty silver dollars, for I

never spent more than ten dollars a year, which was for salt, nails, and the like. Nothing to wear, eat, or drink, was purchased, as my farm provided all. With this saving, I put money to interest, bought cattle, fatted and sold them, and made great profit.

"In two years after, my second daughter was courted. My wife says, "come, you are now rich—you know Molly had nothing but what she spun—and no other clothing has ever come into our house for any of us. Sarah must be fitted out a little. She ought to fare as well as neighbor N——'s Betty. I must have some money, and go to town." "Well, wife, it shall be as you think best. I have never been stingy; but it seems to me that what we spin at home would do." However, wife goes to town, and returns in a few days, with a calico gown, a calamanco petticoat, a set of stone tea cups, half a dozen pewter tea-spoons, and a tea-kettle—things that had never been seen in my house before. They cost but little—I did not feel it—and I confess I was pleased to see them. Sarah was as well fitted off as any girl in the parish.

"In three years more my third daughter had a spark—and wedding being concluded upon, wife comes again for the purse: but when she returned, what did I see! a silken gown, silk for a cloak, a looking-glass, china tea-geer, and a hundred other things, with the empty purse. But this is not the worst of it, Mr. Printer. Some time before the marriage of this last daughter, and ever since, this charge increased in my family, besides all sorts of household furniture unknown to us before. Clothing of every sort is bought—and the wheel goes only for the purpose of exchanging our substantial cloth of flax and wool, for gauze, ribands, silk, tea, sugar, &c. My butter, which used to go to market, and brought money, is now expended at the tea-table. Breakfast, which used to take ten minutes, when we were satisfied with milk, or pottage made of it, now takes my whole family an hour at tea or coffee. My lambs, which used also to bring cash, are now eaten at home—or, if sent to market, are brought back in things of no use—so that, instead of laying up one hundred and fifty dollars every year, I find now all my loose money is gone—my best debts called in and expended—and, being straitened, I cannot carry on my farm to so good advantage as formerly, so that it

brings me not near so much : and further, what it costs me to live (though a less family than heretofore, and all able to work) is fifty or sixty dollars a year more than all my farm brings me in.

"Now, this has gone on a good many years, and has brought hard times into my family : and, if I can't reform it, ruin must follow—my land must go. I am not alone. Thirty in our parish have gone hand in hand with me ; and they all say, "hard times." Now, Mr. Printer, I don't know how you live—may be you are more frugal than we are, as all of used to be : but I am still master in my own house. I am determined to alter my way of living to what it was twenty years ago, when I laid up one hundred and fifty dollars a year. I know I can do it, for I have got all my land yet. With good management, it will yield me as much as ever. I will increase my sheep, my flax-ground, and my orcharding. My produce brings (scarce as money is) as much as it used to do. No one thing to eat, drink, or wear, shall come into my house, which is not raised on my farm, or in the parish, or in the country, except salt, and iron-work, for repairing my buildings and tools—no tea, sugar, coffee, or rum. The tea-kettle shall be sold. I shall then, Mr. printer, live and die with a good conscience. My taxes, both state and continental, which appear now intolerable, will then be easy. My younger children and my grandchildren will see a good example before them ; and I shall feel happy in seeing a reform of abuses, which have been growing on me more than twenty years.

"If you will tell my story, it may work some good, and you shall have my lasting thanks.

A FARMER."

Here is a good story, plainly told, showing how many clever, well meaning men, become embarrassed first, next insolvent, and finally how they come at last to live by their wits, or at the cost of their friends. 'Tis a false pride, which takes hope as the earnest of better times, instead of seizing upon retrenchment as the means, of bringing them about.

Your obedient servant,

EXPERIENCE.

Topping Cotton, and Taming Horses.

Fairfield, S. C. August 12, 1838.

Mr. Editor,—It appears from your statement in the last Southern Agriculturist, that you are in arrear; I therefore take this opportunity of sending you five dollars in payment for 1838. I hope all your subscribers will remit to you forthwith, for so invaluable a paper as yours should receive a strong support from the farmers. I am both sorry and surprised that it has not a more extensive circulation in the up-country.

I would like to hear something about the best mode of working cotton—topping it—whether it should not be always topped, and what kind of seasons are the best for topping, &c. But, *Mr. Editor*, your secret for taming unmanageable horses, is what pleases me most in your last number. I have a mule that cost \$150, that I can do nothing with at all; it is therefore of little or no use. I have thought sometimes I would kill it, for it takes always two fellows to put the gears on it, and then it has to be tied so it cannot kick; and we can only work it in the cart, for if we put it in the wagon or plough, it kicks every thing to pieces. I have tried every means of taming it, but have entirely failed. I hope sir, you will be good enough to communicate the secret to me by letter, and I pledge you my word and honor that I will not divulge your secret to any one. I only wish to gentle my mule, so I can work it. If you should be so kind as to comply, direct your letter to Cookham post-office, and you will confer a particular favor on

Your humble servant,

Capt. B. H. ROBERTSON.

N. B. If you will send me the secret so I can tame my mule, I pledge myself to get you five subscribers, if I have to ride over the District to find them. B. H. R.

In reference to the topping of cotton to which Capt. R. alludes, we must say in reply, that there has been so many opinions on the subject, that we can scarce recommend any one plan definitely. Last year we topped a few rows of our long staple cotton; and were led to the conclusion, that what the plant lost in top growth, it

made up in lateral or side growth. Indeed, this has been the opinion of some of our very best planters. It is a general practice, however, to top cotton in Alabama and Mississippi, and we learn that the practice is attended with great success. The mode there is to clip off the top shoot with a knife, a process which, by checking the growth of the plant, gives time to the fruit to mature. A friend, who is an advocate for topping the long staple cotton plant, states that his process is to take off with the finger nail the small bud, which is found at the top of the plant. This, he says effectually checks the growth for two or three weeks, which enables the fruit to mature more rapidly. As to the time for performing this business, we would only suggest that it appears to us best to do so, when the over luxuriance of the plant indicates that it is going too much into leaf. However, we invite information upon this point from our more experienced friends.

We regret our inability to comply with Capt. B's request to put him in possession of the secret of taming wild horses. Capt. B. on reference to the article, will find we extracted it from the American Turf Register. The object of the Editor seems to have been identical with ours; to excite attention to the subject. We presume he thought so doing, would induce such offers as would enable him to give the secret to the public. If he had not such a prospect, it was mere waste of paper and his readers time, to pen any thing on the subject, and we shall regret having excited the curiosity of our readers, to no purpose. Certain means of taming wild horses, is a desideratum with all who own them, and we can assure the Editor of the Turf Register, that if the practice of his secret sustains the promise, it can be made to profit him considerably this way.

On the Fruit of the Parcle (or Farcle) Bush.

Christ Church, August 28, 1838.

Mr. Editor,—I have seen and read much about the Vine, the Elder, &c., but I have not seen it once suggested, that wine may be made from the fruit of the Parcle

(or Farcle) bush. It is a native, and grows wild in all this section of the country. From my observation of it, I have no doubt it can be made available for two important purposes; the production of wine, and the protection of fields, &c. The bush (or tree) is well known to every one familiar with the country. Its roots are numerous, and penetrate so far into the earth; its wood is so firm, and its branches and thorns are so numerous, that I know of no native tree, so well calculated for a stern live fence. Live fences should engage the attention of all who reside in the country, particularly as timber is getting scarce; so scarce, as to induce the Legislature some twelve years ago, to reduce the height of the legal fence. It bears a berry almost black, which ripens about November, and is to my taste a delightful fruit. Like every other vegetable production, the tree will be improved by culture; the fruit will increase in size; and the juice be improved in flavor, and quantity. I have eaten the berries hundreds of times, and I am fully convinced a rich red wine can be obtained from them at trifling cost, indeed I may say at no cost, for the value of the bushes as a live fence to the ground inclosed, is greater than would be the cost of keeping the fence in order, plucking the berries, and expressing the juice from them. More than this, it is my decided opinion, the wine produced from this berry will be equal to Port, I mean the genuine Port; for it has frequently been my good fortune to get hold of some of the real Simon Pure. I would practice upon my own suggestions, but I am not sufficiently well or permanently located. If they are acted upon by our country people, I venture nothing in saying, not one will, after fair experiment, say he had his "labor for his pains." On the contrary, they will feel indebted to me for the hint, and think me entitled to name the wine. I will yield that honor, however, to the individual who first exhibits a specimen of it.

ONWARD.

Keeping Horses, Dieting Negroes, &c.

Appling, Geo., August 23d, 1838.

Mr. Editor,—I beg some of your many and well qualified correspondents would give us their ideas on the best method of feeding a dozen draft horses, through the year, whether by steaming, grinding, or otherwise, with an account of the apparatus to prepare oats, hay, and corn fodder. What the best method to prepare dieting for twenty laborers? Philosophy many years past set about improving the stoves, and the rooms in Northern winters are now heated with half the fuel, by the persevering ingenuity of Franklin and others. No draft horse can now be fed for a less sum than twenty cents a day. The Pennoyer's, a few years past, introduced an iron mill, by which the corn and cob were crushed into a coarse powder. The hard indigestible pieces of the cob disordered the stomach with pains and cholics; the teeth of the mill soon became dull and obtuse, and although the patentees realized a magnificent amount, no one ever thought of rebuilding.

The corn crop suffered exceedingly in July; many fields will fall off one-fifth from the prospects of the seasonable weeks of June, and but few will be full and heavy crops. High winds, a clear and coppery sky, seem to be inflicting on us a continued drought. The plant seems to have become wilted, heat and dryness are daily penetrating deeper to all the roots, and unless rain visits us shortly, our cotton will be light and short.

Wishing your periodical a continued and successful operation on the community, I tender to you the sentiments of my personal regard.

A SUBSCRIBER.

As we are not "well qualified" by practical knowledge, to afford the information sought by 'A Subscriber,' we must ask it of those, to whom his letter seems particularly addressed. Our own experience, is too limited to enable us to speak as authoritatively as our correspondent desires. We hope, some of our readers will oblige us with their views. Should this hope fail us, we will venture something of our own on the subject. We would advise 'A Subscriber,' to turn his attention to root crops

as a means of diminishing the expense of keeping horses, fattening beeves, hogs, &c.—*Editor.*

A simple Rule for Calculating Interest.

Charleston, August 27th, 1838.

Mr. Editor,—Instead of the ephemeral columns of a newspaper, permit me to record in your valuable register, a simple rule for calculating interest at the rate established by the laws of this State. I have never seen the rule adapted to any other rate than six per cent, but on trial I find it works seven with more exactness, and does the most perfect justice to both creditor and debtor. My attention was directed to this matter, by observing the scandalous advantage taken of a Bank in Mobile. The plea of usury was set up and sustained, simply on the ground that the Bank calculated the discount upon the principles adopted in Rowlett's Tables. These tables or principles are used by every Bank in the Union, and usage alone should make them the law of the land. It seems however, because Rowlett takes six per ct. for 360 days, the court and jury decided the transaction was usurious, the law disallowing more than six per cent. for a year, which is established to contain 365 days. Following the *letter* of the law, I am not surprised that the court sustained the plea, but I am shocked that such a plea should be set up against a contract, which cannot justly be considered fraudulent, view it in whatever aspect you please, because the whole community understand when a note is offered for discount, the Bank does business at one per cent. for 60 days, and therefore gains five days in the year. It is well understood—there is no chaffering about the matter—the only question is, whether the Bank can or will discount the paper—no suspicion of illegality or fraud attaches to either party, or to any part of the transaction. As the different modes of calculating interest are as important to the planter as to any other member of society, I hope you will not deem this communication irrelevant to the objects of your register. The rule is to multiply the sum by the number of days, and divide by 52, as follows :

What is the interest on \$780 for 91 days?

\$780

91

52)70980(1365—legal interest, \$13,65.

The explanation is this. The debtor pays one fifty-secondth* part of a dollar per day on the amount he owes, and a fraction over, so small as not to be stated in figures. It is the 52ndth of a 52ndth. In calculating the quarter of a year at 91 days, the fourth of a day is gained, but this gain is precisely what is lost in the divisor, because it must be divided into the 4th of 52ndths the daily interest, which gives 13, which in turn is the 4th of the divisor. The loss and gain are exactly equalized. The exactness of the rule is beautiful. Some use Rowlett's tables to save the trouble of making their own calculations, but after they have summed the years, months and days, they are obliged to add one-sixth to arrive at the product of 7 per cent. Rowlett's tables give 6 and 1-72nd per cent. per annum. Verily they have taken to splitting hairs in Mobile, and petty as this new business may seem, it promises to be profitable to those who can stoop to it. I hope, Mr. Editor, no one will do it here.

Respectfully, &c.

A. B.

* Multiply 52 by 7=364.

The Elder—for Farmers and Horticulturists.

Mecklenburgh, N. C., August 24, 1838.

Mr. Editor,—Should you consider the following observations and experiments, worthy a place in your valuable book, they are at your service. They relate to the effects of the Elder:

In the preservation of crops of wheat, from the yellows, and destructive insects.

In preventing blights and their effects on fruit, and other trees.

In preserving cabbage plants from being eaten or damaged by caterpillars, and

In saving crops of turnips from the fly, &c.

I was led to my first experiments, by considering how disagreeable and offensive to our olfactory nerves, the ef-

fluvia emitted by a bush of green elder leaves are, and from thence reasoning how much more so they must be to those of a butterfly, which I consider as being as much superior to us in delicacy, as inferior in size. Accordingly, I took some twigs of young elder, and with them whipped some cabbage plants well, but not so as to hurt them, just as the butterfly first appeared. From which time, for these two summers, though the butterflies would hover and flutter round them like sylphs, yet I could never see one light, nor was there I believe, a single caterpillar blown after the plants were whipped, though an adjoining bed was infested as usual. Considering blights as chiefly occasioned by small flies and minute insects, whose organs are proportionably finer than the former, I whipped the limbs of a plumb tree, as high as I could reach; the leaves of which were preserved green and flourishing, while those not six inches higher, were blighted and full of worms. Some of these I afterwards restored, by whipping and tying up elder among them. This tree was in full bloom at the time of whipping, which was much too late, as it should have been done once or twice, before the blossom appeared. I conclude, that if a strong infusion of elder was made in a tub of water, and then sprinkled over the tree once every week or fortnight, by a hand engine, it would answer every purpose that could be wished, without any risk to blossoms or fruit.

What the farmers call the yellows in wheat, and which they consider a kind of mildew, is in fact occasioned by a small yellow fly with blue wings, about the size of a gnat. This blows in the ear of the grain, and produces a worm, almost invisible to the naked eye; but being seen through a pocket microscope, it appears a large yellow maggot, of the color and gloss of amber, and is so prolific, that I have distinctly counted 41 living yellow maggots in the husk of one single grain of wheat, a number sufficient to destroy the whole ear. The following experiment was tried when the grain was getting into fine blossom—sooner would have been better. At day-break, two hands took two bushes of elder, and went on each side of the ridge from end to end, and back again, drawing the elder over the ears of wheat, of such fields as were not too far advanced in blossoming. I conceived, that the disagreeable effluvia of the elder, would effectually prevent those

flies from pitching in so noxious a situation ; nor was I disappointed, for I am firmly persuaded no flies pitched or blowed on the wheat after it had been so struck. But I had the mortification of observing the flies (the evening before it was struck) already on the grain, (6, 7 or 8 on a single ear) so that what damage accrued, was done before the operation took place, for on subsequent examination, I found the wheat which had been struck, pretty free from the yellows, very much more so than what was not struck. I have therefore no doubt, the grain would have been untouched, had the operation been performed sooner. If so, simple as the process is, it promises fair to preserve large crops, as the small insects are the crop's greatest enemy. One of these yellow flies laid at least 8 or 10 eggs on my thumb, only while carrying it across 3 or 4 ridges, as appeared on viewing it with a pocket microscope.

Beds of turnips are frequently destroyed when young, by some insects, either flies or fleas. This I flatter myself may be effectually prevented, by having an elder bush spread so as to cover about the breadth of a ridge, and drawn once forward and backward, over the young turnips. I am confirmed in this idea by having struck an elder bush over a bed of young cauliflower plants, which had begun to be bitten, but after that operation, it remained untouched. In support of my opinion, I will mention the following fact, from very creditable information. Some years ago the country was so infested with cock-chaffers, or oak webs, that in considerable districts they eat up every green thing, but elder, which alone remained green and unhurt. Reflecting on these circumstances, a thought suggested itself to me, whether the elder, now esteemed offensive, may not at a future day be seen planted with, and entwining its branches among fruit trees, in order to preserve the fruit from insects ; and whether the same means may not be extended to a greater variety of cases, in the preservation of the vegetable kingdom. The dwarf elder, I apprehend, emits more offensive effluvia than common elder, therefore must be preferable. As the Hessian insect deposits its eggs when the wheat is small, perhaps the best method would be to make a strong infusion of elder in water, and sprinkle it over the ridges with a watering pot. *Quere*—Whether *poke-weed* and *henbane* do not contain qualities as noxious

to insects, and may not be used with as great prospect of success as elder?

Respectfully sir,

Your obedient servant,

C. G*****.

Specie Payments—Caution.

Mr. Editor,—By the newspapers, I have learned all the Banks of Charleston will resume specie payments on the 1st of September next. Allow me to give my planting brethren a hint, that may be of some service to them. I am one of those, who think it is best in the long run, to get crops to market as soon as they are ready. But there are always exceptions to every rule, and I am disposed to make one this season, and accordingly advise all cotton planters in, and out of this State, not to hurry their cotton to market, before all the Banks throughout the Atlantic States, shall have generally resumed payment of specie. The Banks will be particularly careful in their discounts, as well as issues, till that period, consequently if the crop be hurried forward, there will in comparison with the money in circulation, be a glut, and as a necessary consequence, prices will be low. As none but Bank pets and their friends, will be able to get money from the Banks, the buyers will be few, and stiff as carriage poles. We have heard much of pet Banks, but less of Bank pets, though they rule the markets, and generally have all things their own way. But chance favors the planter this season, and for once he can have his way. Wait till all the Banks have resumed lawful business—there will be less fear of each other, less favoritism, larger discounts, and plenty of shipping in the ports. With the Banks in good humour, and plenty of empty ships sinking money daily, the factors can in turn be stiff, and instead of begging dealers to purchase, they will be able to demand and obtain full prices. That's my notion.

Very respectfully, your obed't. servant,

NECKAR.

Colleton, August 10th, 1838.

PART II.

SELECTIONS.

Soil.

[FROM THE NEW-ENGLAND FARMER.]

(Continued from page 422.)

An author who has successfully explained the nature of Peat, has adopted the following classification: 1. Fibrous; 2. Compact; and, 3. Bituminous peat; 4. Peat mixed with calcarious matter; 5. With sand or clay; 6. With pyrites; and, 7. With marine salt. Each of these he contends, differs essentially in its composition and chemical qualities; and above all each species requires different treatment, in order to convert it, either into a soil, or into manure.

In converting peat into earth, it is a rule to plough and dig it in autumn, that it may be effectually exposed to the winter's frost. If this work be not commenced at a proper season of the year, and if the peat be once hardened by the summer's sun, it is hardly possible afterwards to decompose it.

The crops best calculated for a reclaimed peat bog or moss, are oats, rye, beans, potatoes, turnips, carrots, cole-seed, white and red clover, and timothy. Wheat and barley have succeeded on such lands after they have been supplied with abundance of calcarious earth; and the florin grass (*agrostis stolonifera*,) seems likewise to be well adapted to that description of soil, when moderately surface-drained.

The improvement of peat bogs, and of all wet lands, must be preceded by draining; stagnant water being injurious to all the nutritive classes of plants. Soft black peat earth, when drained, is often rendered productive, by the mere application of sand and clay as a top dressing. When peat contains ferruginous salts, calcarious matter is absolutely necessary to fit it for cultivation.—When mosses or bogs abound with the branches, or the roots of trees, or when the surface entirely consists of living vegetables, they must either be carried off, or burnt. In the last case, their ashes furnish ingredients calculated to improve the texture of the peat. For this soil, soap-ashes are found an excellent manure.

In Leicestershire, and various other counties, they have great tracts of meadow land, which in many instances, are the sites of lakes filled up, the soil of which is composed of peat and sediment; the former originally formed by aquatic vegetation, and the latter brought down by rains and streams from the upland. This forms a soil admirably calculated for grass.

The fens in Cambridgeshire, Lincolnshire, and several other districts in England, likewise consist of peat and sediment. They are pared and burnt for cole-seed, to be fed off by sheep, who by their manure enrich the soil. After two crops of grain, they are sown with grass seeds, (two bushels of rye-grass, and eight or ten pounds of white clover,) and remain in grass for five, six, or seven years; the longer the better. In the fens, beans and turnips, have been cultivated, but have not been found to answer; nor can fen land be fallowed, for it does not bear much stirring. Potatoes, and above all, carrots, may be tried as an intervening crop, and with a prospect of success.

The great object however is, to adopt the most proper management of fen or peaty land for hay crops; and here it is proper to mention a modern discovery of great moment. It is ascertained, that by suffering the second crop of grass, that might often with difficulty be converted into hay, to rot upon the ground, an immense produce of hay is ensured for the succeeding year, and that fen land may thus become a perpetual hay meadow. This important fact is corroborated by some experiments which have been tried near Oudenarde in Flanders, where the same effect has been produced, by leaving the second crop on the ground every second or third year; the grass produced the succeeding year being of extraordinary length.

5. *Chalk.*—Chalky soils principally consist of calcarious matter, mixed with various other substances, in greater or lesser proportions. Where clayey or earthy substances are to be found in such soils in considerable quantities, the composition is heavy and productive; where sand or gravel abounds, it is light, and often unfertile.

The crops chiefly cultivated on chalky soils, are pease, turnips, barley, clover, and wheat; and however much the soil is exhausted, it will produce sainfoin.

The means of ameliorating the texture of chalky soils, are, either by the application of clayey and sandy loams, pure clay or marl; or where the staple is deficient, by using great quantities of peat or of water fed earth. The chalk stratum sometimes lies upon a thick vein of black tenacious marl, of a rich quality, which ought to be dug up, and mixed with the chalk.

The ashes of a sort of peat produced in some part of Berkshire and Bedfordshire, of a red color, and which abound with iron, are found to be highly beneficial to chalky soils, particularly when sown with trefoil, and other grasses; on such soil, these ashes are of use, not only for crops of barley, but likewise even of oats.

Chalky soils are in general fitter for tillage, than for grazing; for without the plough, the peculiar advantages derived from this soil by sainfoin, (one of the most valuable grasses we owe to the bounty of Providence,) could not be obtained. The plough, however, ought not to extend to those fine chalky downs, (called ewe leases in Dorsetshire,) which, by a very attentive management, and in the course of a number of years, have been brought to a considerable degree of fertility, as grazing land, and are so useful to sheep in the winter season.

A chalky soil that has once been in tillage, is so retentive of water in winter, and pervious to the sun's rays in summer, that it is the work of an age to make it a good pasture of *natural grasses* more especially when the clalk lies near the surface. Hence, in the western counties of England several thousand acres of this soil, though not ploughed for thirty years, have scarcely any grass of tolerable quality upon

them, and are literally worth nothing. Such soils ought to be cultivated in the following manner, as a preparation for sainfoin: 1st year, Pare and burn for turnips, to be eaten on the land by sheep, with the aid of some fodder; 2d, Barley to be sown very early with clover seed; 3d, Clover, eaten off by sheep; 4th, Wheat; 5th, Turnips, with manure; and, 6th, Barley with sainfoin. The corn crops must be carefully weeded, and in particular cleared of charlock. Under this system, which has been successfully practiced by a celebrated Kentish farmer (Mr. Boys of Betshanger) the produce has been great and the ground has been laid down in the highest order with sainfoin, or any other grass calculated for this species of soil. By adopting this system, many thousands of acres might be improved, now lying in a miserable state.

6. *Alluvial Soils*.—These are of two sorts; and derived from the sediment of fresh, and the other of salt-water.

Along the side of rivers, and other considerable streams, water-formed soils are to be met with, consisting of the decomposed matter of decayed vegetables, with the sediment of streams. They are usually deep and fertile, and not apt to be injured by rain, as they usually lie on a bed of open gravel. They are commonly employed as meadows, from the hazard of the crops being injured, or carried off by floods, if cultivated.

Those fine alluvial soils, occasioned by the operations of salt water, (called salt marshes in England, and *earses* in Scotland,) are composed of the finest parts of natural clay, washed off by running water and deposited on flat ground, on the shores of estuaries, where they are formed by the reflux of the tide, and enriched with marine productions. They generally have a rich, level surface, and being deep in the staple they are well adapted for the culture of the most valuable crops. Hence wheat, barley, oats, and clover, are all of them productive on this species of soil; which is likewise peculiarly well calculated for beans, as the tap root pushes vigorously through it, and finds its nourishment at a great depth. Lime in considerable quantities, is found to be the most effectual means of promoting the improvement of this species of soil.

7. *Loam*.—Where a soil is moderately cohesive, less tenacious than clay, and more so than sand, it is known by the name of *loam*. From its frequency, there is reason to suppose that, in some cases, it might be called an original soil. At the same time a constant course of tillage for ages, the application of fertilizing manures, and where necessary, mixing any particular substance in which the soil is deficient, (as clay with sand, or sand where clay predominates,) will necessarily convert a soil thus treated into loam.

(To be continued.)

Sea Manure.

[FROM THE YANKEE FARMER.]

Many Farmers remote from the sea find it expensive procuring marine dressing, but those whose farms are on or near the sea shore, can use it to advantage; and the farmers in this vicinity have shown a laudable ambition in availing themselves of the means which the Author of nature has so liberally provided, by furnishing

an ample stock of sea dressing. But one has a dislike to invest capital in an experiment when he does not clearly see grounds on which to found his opinions.—Consequently some, not knowing the efficacy of sea mud, or muscles, feel a doubt as to the result of their labors. No one who is acquainted with lime and its right application, doubts the advantages of it. Lime is made by the aid of heat from certain rocks—these rocks are a combination of lime with carbonic acid, which is fixed in them by chemical attraction; but when driven off by heat, it takes the same form as the air of the atmosphere, or becomes a gas. Hence this gas in familiar language has been called fixed air, by which name it is known when causing the rising of bread the fermentation of beer, the sparkling of cider, &c. Carbonate of lime constitutes the principal part of all marine shells. Lime has an extremely strong affinity for carbonic acid gas, which enables it to take this gas from other substances. Carbonic acid gas is absorbed by water. This absorption is infinitely quicker when agitation is used; hence a striking difference in the increased growth of vegetation where lime or sea shells blended with sea mud have been spread on side hills, caused probably by the agitation and more rapid motion of the water in its descent. Hence we find under certain circumstances, a chemical play of affinities are mutually taking place between the growing vegetable and the medium by which it is surrounded, and by which process the primary elements that constitute and contribute to the growth of plants are excluded and made subservient to their nutrition. Sea mud has all the virtues of fresh water mud with that of salt and shells superadded, and it abounds with putrid animal substances. Innumerable are the fishes, birds, &c. that have perished upon flats since time began.

But when sea mud is thickly blended with sea shells they tend to give it much additional value, as the shells when exposed to atmospheric influence will have their cohesion and organization gradually destroyed—chemical decomposition ensues, carbonic gas is disengaged, and this gas comes in contact with the vegetable fibre, where it is distributed through all its ramifications. To improve the soil is to give to it the principles which it requires and does not contain. Marine dressing not only imparts to it principles, but animates inert matter into action; or to define it more chemically, the elements of inert matter are resolved into new combinations. When shells or lime has had time to act on sand they render the soil more retentive of moisture; while if applied to clay, by connecting with its sandy particles, make it more friable, and thus the amelioration produced by lime or shells to a soil on which either clay or sand predominates. Farming never can be systematically directed to its proper objects till we have obtained, not only an accurate analysis of the general principles of the soil and an account of the most important laws which regulate their operation, but an explanation of the various modifications and combinations of those principles which produce that diversity among plants of all descriptions. In the foregoing remarks I have made no deductions from supposition, but have drawn conclusions from known facts supported by chemical affinity. I will only observe that I have used the above named dressing for more than twenty years, and it has answered my expectations.

J. H.

Westbrook Me.

Preparation of Seed Wheat.

[FROM THE YANKEE FARMER.]

There are many methods of preparing seed wheat; the following is most in practice, and is found to be a good one. Wash the grain thoroughly, rubbing it hard, and changing the water several times. Then make a strong pickle by dissolving nearly or quite as much salt in water as you can. Some say make the pickle strong enough to bear up an egg or potatoe. Put the wheat in the pickle; and the oats if any, and the light kernels of wheat will swim and must be taken off. Let the wheat remain 24 hours or longer in the pickle, then turn off the water and add slacked lime to the wheat till it is dry enough to sow. Some use strong wood ashes instead of lime.

When a boy, we assisted in sowing some wheat prepared as above; there was not enough to finish the piece, and we got a few quarts more from the same cask, which was sowed on one corner of the piece without preparation. When the grain was growing we frequently examined it to see whether there was any difference on account of the seed. When it was ripe scarcely a smutty head could be found on that from the prepared seed; while that which was sown without preparation produced a large quantity of smut. It was perceptible at some distance, and the line between the two kinds could be as distinctly traced. On the one kind there was not more than one smutty head in five hundred; while one fourth or one third of the other was smutty.

One great advantage in preparing seed in this manner is that it may lie in the pickle several weeks without injury, when from a storm or other cause, it cannot be sowed sooner. We before published a case in which wheat was soaked 14 days in strong salt water, and was then sowed and grew well. Another case—several bushels of wheat were soaked in water in which there was as much salt as would dissolve; and as there came a storm and overflowed the intervals on which the wheat was to be sowed, it remained 14 days in the pickle; then the pickle was drained off and the wheat remained in a wet state seven days longer, making 21 days that it was exposed to the action of the pickle. It was then thought to be too late to sow the wheat, so it was dried and saved till the next spring, then sowed and it grew well.

There is no doubt that grain may be kept in a better condition in a strong than in a weak pickle, as it will neither vegetate nor decay in a strong pickle.

Several farmers informed us that they destroyed or partly destroyed their seed wheat last spring, by soaking it in a ley made of wood ashes. We carelessly neglected to note the time it was soaked or the strength of the ley.

Manuring of Corn broadcast or in the Hill.

[FROM THE FARMER AND GARDENER.]

Each of these modes of culture has its advocates, and, as for ourselves, we have not fully made up our mind with respect to the superiority of either, although we are free to confess, we incline to the belief, that the broadcast application of the manure is best; and so far as our judgment may be entitled to consideration, we think it would be found most effective to harrow instead of ploughing it in, the tendency of most manures, except the gaseous parts, being to sink. By broadcasting, the lateral roots, which extend far beyond the stalk in search of food, have a much better opportunity of imbibing nutriment than when applied exclusively to the hill. The ducts or mouths, through which the sustenance of the plant is derived, being at the extreme points of the roots, it stands to reason that none but the shorter ones, which do not extend beyond the body of the manure as applied to the hill, can derive any essential advantage therefrom. Where time and opportunity suit, and manure is plenty, both applications would be of great advantage, and at all events, a small portion of light vegetable mould and ashes, or a compost of ashes and plaster, or lime, should be put around the plants when they first come up, to give them an impetus at the very onset, as nothing is so beneficial to the future crop as imparting to the young corn a vigorous start at the incipient stage of its growth. No one except those who have witnessed it, can form any idea of the great use which is to be derived from applying from one to four gills of such composts as we have named, to the corn plants when they first come up: nor can they conceive the amount of increase in the yield of the corn which will be thereby promoted.

Maple Sugar Orchards.

[From the Silk Grower and Agriculturist.]

MR. COOKE:—While I was riding a few days since near the bank of the Connecticut river, I passed a beautiful grove of transplanted maple trees, designed, I suppose, for a Sugar Orchard. The orchard was nearly an oblong square of about 250 trees, the rows crossing each other at right angles. I was not a little pleased with the sight. It produced the following reflections. "This man cares for his posterity; he is a philanthropist; he loves independence; every well informed farmer should do likewise. True it may cost a little time and money; but the benefits arising therefrom would more than compensate every philanthropist, although neither he nor his children may reap the product, except the increase in the value of the farm, which will be not a little. Yet after another generation has passed away there will be no necessity of sending, with large revenues, to import this precious article, called sugar, to supply the taste of the curious; for a staple quantity and of superior quality will be near at hand. Were this the case an inconceivable benefit would accrue to a nation who call themselves independent, yet cannot produce their own sugar. If the consumption of this article should increase for a few generations to come in the proportion it has for a few last generations, it

will require hundreds and millions of dollars to supply the sweet taste, which might be spent otherwise to much profit. Let every philanthropist, yea, those who are not philanthropists, immediately provide a sugar orchard of the maple, or butternut, or both; perhaps some would prefer the butternut, because it bears delicious fruit and affords as much saccharine matter as the maple, and of a superior quality. Farmers say not—it will do no good, it makes cost for nothing. But for the welfare of your children and the good of your country, devote a little time, a little cost, a little land for this benevolent object.

CO-OPERATOR.

Vermont, December, 1837.

Perennial Rye Grass.

[FROM THE YANKEE FARMER.]

Last spring I procured a small quantity of the *Perennial Rye Grass*, and sowed them in my garden. My object was to ascertain whether it was adapted to our climate; and how far, from the smallness of the experiment, it might prove an acquisition in our rural management. The grass made but an indifferent appearance, until the rains commenced in the fall; after which it put forth rapidly, and has exhibited a most luxuriant growth ever since. Even at this time, though the thermometer has been as low as ten degrees and the season quite cold, the blades are perfectly green, not showing the slightest appearance of having been nipped by the frost. It is decidedly the most beautiful grass I have ever seen, except perhaps the English grass or greensward, which it closely resembles in the length and glossiness of its spears. The bunches are large and the blades very long. Encouraged by the flattering result of this trial, I have purchased a few bushels for the purpose of sowing a lot; and I think I may confidently recommend to others to do the same. There can be no doubt of its being well adapted to the soil and climate of New York, judging from the hardiness with which it resists the cold. The quantity of herbage afforded by the *Rye grass*, appears so far, to exceed considerably that of orchard grass, Timothy, or tall Oat grass, (*Avena elatior*) all of which, particularly the last, I have cultivated to some extent.

T. S. P.

Beverdam, 1 mo. 1st.

Facts in Agricultural Science.

[FROM THE NEW-YORK CULTIVATOR.]

Analogy between Animal and Vegetable Nutrition.

Animal and vegetable matters constitute the food of animals and vegetables; yet these matters nourish neither the animal nor the vegetable, until they have undergone certain preparatory processes, and are reduced to a fluid state. Solid substances, so long as they remain solid, can benefit neither.

The soil is to plants what the stomach is to animals—the recipient of food—where it undergoes its first process of preparation, is broken down and blended with a solvent liquid.

The spongeoles, or small roots of the plants, like the lacteals in the animal, take up the digested food, and send it to the leaves, as the lacteals do to the lungs, for its perfect preparation as food.

Leaves are to plants what lungs are to animals—the organs of respiration. The lungs retain oxygen and give off carbon. The leaves part with oxygen and inhale carbon, when the sun shines upon them and imbibe oxygen when it does not. Leaves are, in summer, as necessary to health and growth of the vegetable, as lungs are to the health and growth of the animal.

Heat, air and water are essential in all the processes of nutrition, vegetable as well as animal.

The ordinary temperature of the animal stomach is 98° —hence animal digestion does not abate for want of heat. The decomposition of vegetable food, in the soil, ceases when the thermometer sinks below 40° , and is most active at the temperature of 80° .

Neither lungs nor leaves can perform their office healthfully, without access to fresh air; nor can decomposition take place without air.

Water is a necessary solvent in the preparation of vegetable and animal food for the delicate mouths of the lacteals and spongeoles, and is no less indispensable as a medium of transmitting the food to the lungs and the leaves, and from thence through the animal and vegetable structures.

After the blood of the animal has been perfected in the lungs, it is conducted, by minute arteries, to every part of the body, and is transmitted into flesh, &c. After the sap has been elaborated in the leaves it is conveyed, in like manner, to every part of the plant, and is then converted into wood, fruit, &c.

Vegetables, like animals, may be injured by an excess of food; and when food is too concentrated, or too rich, the lacteals and the spongeoles become clogged, and unfitted to transmit aliment to the lungs or the leaves.

A seed may be compared to an egg. One contains the germ of a chick, the other the germ of a plant. Nature has provided in their envelopes the food proper for both, in infancy, and until they can provide for themselves. Through the agency of heat and air, the chick becomes animated, grows and bursts its shell; and the seed germinates, grows, and bursts the earth.

The elementary matters found in animals and vegetables are nearly the same—the animal contains the most nitrogen, the vegetable the most carbon. Lime and iron are found in both.

And in both, the power and the habit exist, of throwing off, through their excretory organs, matters, blended with food, not fitted to their wants, or not assimilating with the elements of their structure. Plants often exhale, or give off, like some animals, a strong odor.

As weeds are more commonly natural to the soil than cultivated crops, they are grosser feeders, and consume more food than the latter.—Hence they should not be permitted to rob the crops.

Barley.

[FROM THE YANKEE FARMER.]

The following extracts are the most important part of an able editorial article on barley in the Genesee Farmer:

The increasing attention which is paid to the culture of barley—the profits of the crop—its value as a preparative for wheat—and the favor which it finds as a substitute for wheat in making bread, is entitling it to a high rank among the grains cultivated in this country.

According to London, there are six species and sub-species of this grain in cultivation, besides varieties:

Hordeum Vulgare, or Spring barley, is distinguished by its double row of beards or awns, standing erect, and its thin husk, which renders it favorable for malting. This is the sort commonly grown in the southern and eastern districts of both England and Scotland.

Hordeum Celeste, or Siberian barley, is a variety of early or spring barley, much grown in the north of Europe, having broader leaves, and reckoned more productive than the other.

Hordeum hexastichon, Winter barley, or as it is called in Scotland, square barley, is a variety known by having six rows of grains, large and thick skinned, and for that reason not considered as favorable for malting.

Barley bigg, is a variety of winter, known by its always having six rows of grains, by the grains being small and thick skinned, and being earlier than the preceding or parent variety. It is hardy and chiefly grown in Scotland.

Hordeum distichon, common or long eared barley, is known by its long spike or ear flatted transversely, and its long awns. It yields well, though some object to it because the ears being long and heavy, they think it apt to lodge.

Hordeum distichon nudum, or naked barley, is known by the awns falling easily, and when ripe almost of themselves from the chaff, when the ear somewhat resembles wheat and by some is called wheat barley. It is spoken highly of in the British Husbandry, as being hardy in growth, strong in the stem, tillering with great vigor, and producing abundant crops of fine grain.—By some this variety is considered the same as spelt wheat, which indeed it strongly resembles. It is six rowed.

Hordeum Zeocriton, sprat or battledore barley, is known by its low stature, coarse straw, short broad ears, and long awns. It is but little cultivated.

New varieties of barley are produced in the same manner as in wheat, by crossing, and some of the most celebrated kinds, such as the Chevalier, Annat, &c. have originated in this way.

In this country but two varieties are sown, and these are familiarly distinguished as the two and the six rowed. They are always sown in the spring; no kind in the United States being able to endure the severity of our winters, or at least we know of no variety which has been attempted here as a winter or fall sown grain.—The comparative value of the two varieties does not seem to have been fully decided by our farmers, some preferring one kind and some the other. That the two rowed will make the most flour from a given number of pounds—that its thin skin renders it more suitable for malting—and

that it is rather less liable to be effected by smut than the six rowed seems to be generally conceded; but its productiveness is much disputed, and it would seem with some reason, as the greater length of ear in the two rowed would hardly compensate for the greater number of rows in the other variety. So far as we are able to judge, however, from the opinions of experienced farmers, the preference, for the reasons assigned, is becoming more decided in favor of the two rowed.

Barley of every variety requires a rich, friable, and mellow soil, which retains a moderate quantity of moisture, but without approaching to that which may be denominated wet; as for instance land which contains from 50 to 65 per cent. of sand, and the remainder chiefly clay, though in situations where the climate is usually moist during the summer, it may be grown where sand is in the soil in a larger proportion. It succeeds best in what farmers term a rich deep loam, and with too much sand, or too much clay, will produce good crops. With the single exception, that it will succeed with less lime than wheat, soils that will produce good wheat, will also grow barley to advantage.

It is probable that more barley is grown in the state of New-York than in all the rest of the United States, and the section in which it is produced in the greatest abundance and perfection is the northern slope of Western New-York. The ranges of towns which mark the geological separation of the argillaceous and limestone districts have hitherto yielded the greatest quantities of barley, and in them the culture is still rapidly extending. On this slope it is found that soils on which winter wheat without extra care in cultivation, is very liable to freeze out in the spring, will produce heavy crops of barley, and hence clover and barley on many farms have taken the place of clover and wheat, affording about the same profit in the crop and at a less expense of labor.

Perhaps there is no crop which demands and repays thorough working of the soil better than barley. The surface when fitted for the reception of the seed can hardly be made too fine; and the excellence of the crop is greatly depending on this point. A crop that occupies the ground so short a time as barley; spring wheat or oats, can hardly be benefited by manure applied directly to them, unless in a thoroughly decomposed state, and hence it has been found by experience, that these crops succeed better after hoed or root crops to which the manure has been applied, or on turf lands that have received a top dressing of manure, and been carefully turned over in the fall of the year. The practice, somewhat extensively followed, of sowing winter wheat after barley, has led to the application of the manure to the barley crop; and perhaps where hoed crops cannot precede, this is the preferable way, though there is a great risk of too much straw, and the consequent lodging of the barley before ripening.

Barley should be sown in all cases as soon as the ground is sufficiently dried and warmed to allow the seeds to germinate freely, and place them beyond all danger of injury from frost.—Early frosts are more fatal to barley than to spring wheat or oats, and more injurious on wet or low lands than on dry or elevated ones. Particular attention must be paid to the dryness of the soil at the time of sowing, especially if naturally inclining to wet, as on such soils a wet spring will starve and destroy the plants.—“Steeping the seed for twenty-four hours in soft water will cause the grain to germinate at the same time, and this, if it is sown at a late period is of more importance than

may be generally imagined, as it is otherwise apt to ripen unequally." (Brit. Hus.) The finest, heaviest samples of all grains are usually obtained from early sown fields; and the difference in weight in barley and oats is from one fifth to one third in favor of early sowing. The smut is the only disease to which barley is subject, and this is rarely a serious injury, where the crop is grown on favorable soils, or the seed is put in, in good order. The worm which has proved so destructive to wheat in the eastern counties, has also injured the barley in a considerable degree; but in West New-York we have neither seen nor heard of its appearance in this grain. The wire worm is sometimes very destructive to the crop when young, and in some seasons the meadow mole, so called, when the grain approaches maturity, makes sad havoc by cutting down the plant to get at the ears, an affect more often observed when the barley is sown on turfs, as they will rarely lie so close as not to leave numberless hiding places to the animal.

In sowing barley, as in most other crops, the universal experience of English farmers and the directions of the best works on agriculture, go to establish the fact, that less seed is required on rich lands than on poor, and that the quantity of seed used should be increased in proportion to the lateness of the sowing. In European countries from ten to eighteen pecks per acre are used, sixteen being the quantity usually recommended; in this country from two to three bushels is considered sufficient for the acre. The two rowed requires less than the six rowed, as it tillers more vigorously: and if sown too thick, the plants will be weak and ripen irregularly.

Both the quantity and quality of the product depend on the soil, and the variety of the grain sown. In this country the average crop may be stated at from thirty to thirty-five bushels per acre; in England the average produce is estimated at thirty-two bushels. Middleton says, the crop in that country varies from fifteen to seventy-five bushels an acre. The greatest crop we have seen mentioned in this country was sixty-five bushels per acre, and that was grown on land from which several crops had been taken in succession. In an experiment made by the East Lothian Agricultural Society upon the Chevalier, and a common sort of barley, both sown on a light gravelly soil, the produce for each imperial acre, was—Chevalier 65 bushels 2 pecks of grain, weighing 56½ lbs. per bushel. Common barley gave 61 bushels 2 pecks of grain, and weighed 54½ lbs. per bushel.

The value of the several kinds of grain as an article of food, may be estimated from the following table. The quality of the flour being good household or family flour.

	Weight of grain,	of flour.	of bread.
Wheat, - - - - -	60	48	64
Rye, - - - - -	54	42	56
Barley, - - - - -	48	37½	50
Oats, - - - - -	40	22½	30

[Brit. Hus.]

The analysis of barley by Sir H. Davy, gives as contained in 100 parts:

79 per cent. of mucilage or starch,
7 of saccharine matter,
6 of gluten or albumen.

Owing to the deficiency of this latter substance, barley flour, like that of oats, buckwheat or potatoes, cannot be made into bread alone,

but is mixed with wheat flour, or eaten in the form of cakes, when it is very wholesome and palatable.

Barley is perhaps one of the most difficult of the grains to secure in good condition: as, if suffered to stand until the berry is perfectly dry and hard, the head will frequently drop down, owing to the brittleness of the straw;—and if cut too early the grain will shrink and lose in weight; and as it cannot when cut in an unripe state be put into barns or stacks without certain injury by heating, so in unfavorable weather, it is very apt to become of a black color, and lose the clear yellowish-white tinge so characteristic of good and well cured barley.—The usually fine state of our atmosphere, and the clear dry air of our summers, renders the proper curing of barley a much less difficult task here, than in the moist climate and cloudy skies of Great Britain.

Before the introduction of threshing machines, barley, though easily threshed by horses or by hand, was with great difficulty prepared for market, owing to the obstacles offered in separating the awn from the kernel; and at the present time in many districts of England and most parts the continent, the *hummeling*, or freeing the berry from the beard, is one of the most laborious and difficult processes in the culture of barley.

Barley is extensively used in the fattening of pork, for which purpose it is admirably adapted when prepared by steaming or grinding; and in the districts where it is grown, is an excellent substitute for the corn crop, which for a few years past has been a partial failure. It is also used in large quantities in our breweries, and in too many instances takes the place of rye in the manufacture of whiskey. As a feed for horses it is not generally approved, but for fattening cattle, dogs and poultry, it is highly prized. Before the system of cutting straw, or manger-feeding was generally adopted in Great Britain, barley straw, owing perhaps to its being cut early, was used as food for cattle in preference to others, as cattle could eat it uncut more readily than the harder straws. Wheat or oat straw is now preferred when it is to be converted into chaff, or cut fine for mixing with hay or roots. There are varieties of barley found in the shops, Pearl and Scotch, both of which are prepared by divesting the kernel of its husk in mills resembling in some degree the rice mills of the south, and in the case of the pearl barley the grinding or rubbing is continued until the berry assumes a smooth round form. Few articles are more nutritious, or better adapted to the stomachs of the weak or the valetudinarian.

The Oat.

[FROM THE GENESEE FARMER.]

The oat, *Avena sativa* of the naturalist, is a grain very useful, and better adapted to a northern climate than any other plant that has been used for bread. It is chiefly confined to the more moist and cool portions of the American and European continents, being scarcely known in the South of France, Italy or Spain; or in tropical countries. Of all the cultivated grains, oats are the easiest of culture, and the most certain and prolific in its product.—The varieties of oats are very numerous and some of them are very distinctly marked, and as in the case of wheat, there seems no reason why new varieties may not be produced at pleasure.

In the sowing of oats less regard may be had to soil than with any other grain; the only requisite seems to be that it shall not be too wet. Tenacious clays, or poor gravel, where scarcely any seed bearing plant will grow, will produce a crop of oats, if ploughed at the proper season, and the seed of good quality and judiciously put in. "The best oats both in quantity and quality, are those which succeed grass; indeed no kind of grain seems better qualified by nature for foraging upon grass land than oats; as a full crop is usually obtained in the first instance, and the land left in good order for succeeding ones."—(British Husbandry.)

It should always be remembered, that early sown oats, as well as spring wheat and barley, are always heavier and of better quality, than late sown ones, and as a general rule, all spring grains should be put into the ground as early as the soil can be prepared for their reception.

Oats require and receive no after culture, unless it may sometimes become necessary to go over the field and pull such weeds as threaten to over-run the plant, or prove injurious by seeding to after crops. There are few of the plants cultivated as grain, so little liable to injury from insects or disease as the oat. The wire worm sometimes attacks the plant in the ground, and we have in one or two instances detected the worm that is now proving so injurious to wheat, in the oat.—The disease to which the oat is most liable is the smut. This may in general be prevented by sowing seed of good quality and putting it in when the ground is dry and in good tilth. According to Loudon, liming oats or barley, which is so effectual in destroying smut on wheat, is useless. This may perhaps be owing to the husk, which prevents the immediate contact of the alkali with the kernel. Would not soaking the seed in lime-water obviate this difficulty and secure the plant against the disease? The mode of preventing the ravages of the wire worm practised in Europe, is to plough the land immediately before sowing. If in the grass the worm is thus turned under, and before it works its way to the surface the grain is beyond its reach. In this country, late ploughing, by exposing the larvæ and eggs of insects to the action of frost, has been found one of the most effectual means of their destruction.

The great danger to which late sown oats are exposed, is, the being overtaken with frost before the grain is ripened. The result is an inferior light grain, unfit for seed, and of little value for meal. The great difference of weight between a good and poor oat, lies principally in the weight of meal, as the husk of the inferior oat is equal to that of the ripe one. Fortunately frost bitten oats are easily detected. The Rev. Mr. Furquharson observes in the 19th vol. of the *Farmer's Magazine*, "that every oat kernel when stripped of the husk will be found to exhibit the appearance of a groove on one side. If the bottom of the groove has a clear translucent appearance from end to end; if it is not much shrunk into the substance of the kernel; and if the kernel splits with difficulty in its direction; then we may pronounce the vital part of the seed to be safe from the action of frost. If on the contrary there is a black speck seen in the groove at the root end of the kernel; if the groove cuts deep into the kernel, so that it may be split in that direction; and if, when so split, the blackness accompanied with a rotten scaly appearance, is seen extending from end to end at the bottom of the groove, then the vital part, or future plant may be pronounced as being entirely unfit for seed."

Oats are extensively used for human food in Scotland and some parts of England, and in some few instances during the past season, oats were used, in this country. But they are generally cultivated almost exclusively for horses, there being no grain which agrees with this useful animal so well, or which can be so cheaply furnished. Oats cut when in rather a green state, and well cured, fed to sheep or calves without threshing, in small daily quantities, have been highly recommended by some intelligent and practical farmers. A mixture of oats and peas sown together, at the rate of two bushels of the former and one of the latter to the acre has been adopted by some farmers, and considered as preferable to learn oats for feeding. The mixture requires grinding of course, and must be better when required for mixing with boiled food for swine, than oats alone. The trouble of harvesting must operate as a drawback on this mode of culture, as the crop is almost invariably 'lodged,' and as it can neither be raked as peas, nor cradled as oats, it must be cut up with a scythe, which is usually a tedious and wasteful process. The quantity of oats grown in the State of New-York is immense. It has been estimated that the crop in Onondaga county alone, for the year 1837, fell not much short of one million of bushels.

Human Food.

[FROM THE ASIATIC JOURNAL.]

When man is considered with reference only to his intellectual part, it is not without reason that he is styled by Shakspeare, "the beauty of the world—the paragon of animals." A being that is able in some degree, to scan the work of creation—that can measure the globe on which he lives, and calculate the motion of the mighty orbs which roll in the immensity of space—that has subjugated the elements to his use, and made fire, air and water his vassals, may be said to be "in apprehension, like a god." To bring down our admiration of this "paragon" to a juster standard, however, it is unnecessary to enter upon an estimate of his moral imperfections—the specks which darken and disfigure the brightness of his understanding—it is sufficient to contemplate him in his animal character, in order to see how nearly, with all his intellectual pretensions, he is allied to the brutes.—How mortifying is it to human vanity to think that there is scarcely any species of matter, animal or vegetable, in any state of immaturity or corruption, which is not eaten by the human animal, and capable of assimilating with his substance, and thus forming an integral part of the compound machine of mind and matter, called man! Mr. Donovan, in his treatise on domestic economy, has devoted a portion of the last volume to the subject of human food, and has enumerated the various substances, animal and vegetable, which constitute, or have constituted it, amongst different nations. A more disgusting catalogue it is scarcely possible to read.

In his "account of animals used as food by the various nations of the world," he finds it convenient to arrange them in a natural order, beginning with man himself. It has been long doubted, he observes, whether human beings could feed on their fellow-creatures for the mere sake of the flesh, without any other incentive; but it has been incontrovertibly established, that man will devour man as his ordinary

food, and often with a high relish; that feasts are resorted to as sources of animal gratification; that the cannibal has not only his favorite parts of the human body, but prefers certain modes of cookery. Our own ancestors were of the number of these horrible epicures. Diodorus Siculus charges the Britons of Iris with being anthropophagi; and St. Jerome (who lived so late as the fifth century of the christian era) accuses a British tribe, from his own personal knowledge, not only with a partiality for human flesh, but a fastidious taste for certain delicate parts of it. Not only in Polynesia, but in Africa, human flesh is still consumed as ordinary food; and Stedman states that, in the interior of the African continent, human limbs are hung up on shambles for sale, like butchers' meat in Leadenhall market.

This is revolting enough; but it is little less offensive to consider the other animal food which serves to allay the undistinguishing voracity of man. Monkeys are esteemed delicate eating; the Chevalier de Marchais says, that in South America, monkey flesh is allowed to be nourishing and very delicate. The heads are made into soup, and are served with it; and although a person at first experiences some difficulty in accustoming himself to seeing heads which resemble those of little children; when this repugnance is once conquered, he finds that monkey-soup is as good as any other." Amongst other animals the following are eaten in different parts of the world, bats and vampires, the sloth, the rhinoceros, the elephant, the seal tribe, the dog, the wolf, the foul jackall, the voracious hyena, the rank fox, the fetid skunk, the cat, the rat, the hedgehog, the camel, the horse, the ass, the tiger, the lion, the whale, the shark, the crocodile, lizards, frogs, the *boa constrictor*, (which is preferred by the negroes to any other food) the rattle-snake, the viper, or adder. Mr. Donovan might have added to his list of nations who are serpent-eaters, the Chinese, who fatten snakes as we do oysters, for the table.

More discrimination appears to be used in the insect tribe. A peculiarly disgusting insect is eagerly devoured by the Chinese and Hottentots; caterpillars are cooked into a dish in some parts of Australia, and the people of New Caledonia eat spiders. Ants and their eggs are eaten by several nations, and this kind of diet has been eulogised by Europeans who have partaken of it. In some parts of the East Indies, it is said that vast quantities of termites are collected and made with flour into a variety of pastry; but an inordinate use of this food occasions colic, dysentary and death. Mr. Smeathman states that the Africans eat these ants roasted by handfuls, and several Europeans have declared they are most delicious—like sugared cream or paste of sweet almonds. Locusts are eaten in almost all the countries where they appear, either fried, pounded with milk, ground into flour, and baked in cakes, or made into soup.

Of fishes and birds, there appears to be scarcely any excluded; and Mr. Donovan observes that, "although particular animals have been reported by travellers to constitute the food of nations whose history they write, we might perhaps extend the catalogue to all living creatures, with the exception of a few that are known to be actually poisonous."

The object of Mr. Donovan was merely to detail those articles which were the ordinary food of large classes of men. But there are many, of a disgusting kind, which he has not thought it necessary to notice, which are the ordinary aliment, or delicacies, amongst nations. The Cochin-Chinese are fond of hatched eggs, the Chinese and other

eastern people of putrid eggs. There are nations of dirt eaters—the Ottomans, for instance, who diet upon clay. Worms, grubs, and maggots are the food of others. The Dyaks and Battaks of Sumatra and Borneo drink human blood. Raw blubber is prized by the Esquimaux, and game in a state of putrefaction gratifies the palate of the polished European gourmand.

When we select instances of peculiar and depraved appetite, they are disgusted indeed. We have seen individuals in Europe who can devour vast quantities of raw liver, tallow candles, and tobacco pipes; but what are they to the esters or carrion, putrid offal, and excrementitious substances amongst the religious ascetics of India!

Perhaps the most repulsive, as well as prodigious, instances of outrageous voracity, is the sheep-eater of Oude, described by General Hardwicke, in the '*Transactions of the Royal Asiatic Society.*' This man, or rather monster, in the presence of several gentlemen and ladies, ate, at one meal, two sheep, one weighing from twelve to thirteen pounds per quarter.

The cruelty which this indiscriminate voracity of man inflicts upon the inferior animals, is frightful. The horrors of the Roman kitchen are detailed in Mr. Donovans's book. Vitellus and Heliogabalus regaled on a dish composed of the tongues and brains of peacocks, the bodies being thrown to the hogs. The combs torn from live cocks were a dish of exquisite relish to the latter, because seasoned with cruelty. The heads of parrots were served up at his feasts. Vitellus had a large silver dish, the filling of which, for one of his entertainments, occasioned wholesale slaughter, being composed of insignificant parts of various small and rare birds and fishes. Vedius Pollio, a gentleman of Rome, and a favorite of Augustus Cæsar, contrived a method of giving a flavor to lampreys, which all his friends, and Augustus himself, highly relished, whilst a secret; it was by feeding them on human flesh! One Claudius Æsopus, a tragedian, was renowned for serving up, on a large platter, worth 4,800*l.* all kinds of singing and speaking birds. At a feast given to Vitellus by his brother Lucius, there were 2,000 different kinds of fish, and 7,000 of birds. The celebrated Apicius expended nearly a million sterling on his kitchen, and finding his property reduced to only 80,000*l.* fearful that he should starve, he took poison. A small dish of his, called *minutal apicianum*, or Apicius's Mince, is made up of the excerpts of three or four dozen animals. But cruelty in the kitchen did not cease when Apicius administered to himself the salutary draught. His successors have caught his spirit. Dr. Kitchner quotes from Wecker's '*Secrets of Nature*' "How to roast and eat a goose alive." The goose, after being plucked, is to be surrounded by burning fuel, and cups of water are to be placed within the circle: "she is to be larded and basted; but she is to be roasted slowly. By walking about, and flying here and there, being cooped in by the fire that stops her way out, she will not fail to drink the water, and cool her heart; and when she roasteth and consumes inwardly, always wet her head and heart with a wet sponge; and when you see her giddy with running, and begins to stumble, she is roasted enough. Take her up, set her before her guests and she will cry as you cut off any part from her, and be almost eaten up before she is dead: *it is mighty pleasant to behold!*"

After reading this, what a satirist does Shakespeare seem, in the passage from which we quoted at the beginning!

Peas.

[FROM THE GENESEE FARMER.]

In comparing the value of peas with that of beans, Bannister, in his work on Agriculture, says "that for feeding swine the pea is much better adapted than the bean; it having been demonstrated by experience, that hogs fat more kindly when fed with this grain than with beans; and what is not easy to be accounted for, the flesh of swine that have been fed on peas, it is said, will swell in boiling and be well tasted; whilst the flesh of the bean fed hog will shrink in the pot, the fat will boil out, and the meat be less delicate in flavor. It has therefore become a practice now with those farmers who are curious in their pork to feed their hogs on peas and barley meal; and if they have no peas of their own growth, they choose rather to be at the expense of buying them, than suffer their hogs to be fed on beans." We may remark that the bean spoken of is not our common bean, but one cultivated extensively in England as feed for animals; and as corn is scarcely known there, peas, beans, and barley are used as substitutes for that invaluable grain.

Loudon says that 'the soil best adapted for peas, is a dry calcareous sand; it should be in good tilth, not too rich or dunged along with the crop;' and the experience of our farmers is in accordance with the opinions here advanced; although as our climate is less moist than that of Great Britain, dryness in the soil is not so indispensably requisite here as there, or rather a less quantity of sand in the soil will be favorable to their growth. The advantages of lime in the soil, is in the case of no plant more apparent than in that of the pea; and, as in the growth and perfection of wheat, its presence may be said to be indispensable to a great crop. Plaster operates most admirably on peas, as the many instances recorded in our journals prove, and as almost every farmer has experienced. It is used as a top dressing, and is sown on the plants when they are grown so as partially to cover the ground. The full benefit is received when the leaves are covered with dew at the time the plaster is sown; and as in the case of plastering clover, rain immediately after sowing is decidedly injurious.

Mr. Cowles, of Marcellus, assures us that for several years past, his average crop of peas will fall not much short of forty bushels per acre, and in some instances have exceeded that amount. Mr. Cowle's farm is an excellent one, lying near the southern termination of the limestone strata, though the subsoil is argillaceous. The soil is deep and constitutes what may be called calcareous loam, a variety which experience proves to be one of the most fertile and valuable, either for roots or grain, being warm, abounding in substances adapted to the nutrition of plants, and of course, as all such soils are, eminently productive. The kind of pea cultivated by Mr. Cowles is the Marrowfat, a variety excellent for the table as well as for field culture.

A clover ley has been found good for peas; turned over carefully in the fall that the peas may be got in early the ensuing spring. If manure is required, it may be spread on the land and turned in at the same time of ploughing, or if fine or compost manure, it may be put on and harrowed or ploughed in with the seed. As there is less danger of preventing the vegetation of peas by burying deep than in the

case of almost any other plant, ploughing them in has generally been recommended, and where the ground on which they are put will admit of this course it is probably the best method to cover them with a rather shallow furrow. Peas will vegetate five or six inches deep, but three or four is the proper depth.

Farmers who intend to make peas a substitute for corn in fattening pork, should have a few acres of some early variety, the Washington for instance, with which to commence feeding. This should be done as soon as the peas begin to ripen, throwing them the whole as gathered in the field, and allowing the swine a clover pasture at the same time, or what is still better, an orchard for their range. In this way the labor of feeding in the fall months will be much diminished, and the hogs be in a thriving condition, if not nearly fat, at the time of putting in the pen. Grinding or steaming peas, is decidedly the best mode of feeding them, and if occasionally mixed with a few bushels of oats or barley, the change will be beneficial. Gathering peas, which formerly constituted a serious objection to their culture, from the slowness of hand raking or hooking up, has, by the introduction of the horse rake, become an affair of no moment, they being raked by that instrument with the utmost facility, and with very little loss.

If peas are cut before they are entirely ripe, the haulm or straw furnishes an excellent food for sheep, and if made into chaff, is eaten with avidity by all animals; but as they are in this country usually ripe before the land is required for wheat, the straw is little used for fodder at any time. Peas well cultivated are a good preparation for wheat, keeping the ground clean, and ensuring the decay of turf and the decomposition of whatever manure may be used on the land. The usual quantity of seed is about two bushels, though some use less; and some farmers put on a peck or two more of the large pea to the acre than the small ones. Steeping of peas in water, or what is much better, barn-yard lye, is practised by farmers abroad, and would no doubt prove beneficial every where. As lime is so essential to the perfection of the pea, would not drying in lime after steeping, be of advantage?

On the Properties and Preservation of Eggs.

[FROM THE NEW-ENGLAND FARMER.]

The sensible qualities of eggs vary materially. The albumen of hen's egg conglutated by boiling is a beautiful opaque milk-white substance; that of a duck's egg is slightly transparent, and conglutates with less heat than that of a hen's egg, in consequence of which, it should not be boiled for so long a time. In frosty weather all eggs require a longer time to conglutate the albumen than in warm weather, the difference being about half a minute. The egg of the goose is strong yet not disagreeable; that of the turkey is almost as mild as a hen's egg, and that of the duck is glutinous, but not quite so delicate. The egg of the guinea hen is smaller and more delicate than the common hen's egg. The ostrich egg is of a sweetish taste, is gross, and soon satiates the appetite, but it keeps longer than a hen's egg, owing to the thickness of its shell, which by age grows as hard as ivory. Edible eggs vary very much in size. Some naturalists affirm that the ostrich egg weighs fifteen pounds; but one laid in the menagerie at

Paris, as large as any brought from Africa, weighed but two pounds and fourteen ounces. It held a pint and was six inches deep. The smallest hen's egg weighs about one ounce and three fourths; the average is two ounces and a quarter; and the largest that ever occurs does not exceed four ounces.

Eggs, in general, are esteemed for their freshness, and the absence of ill smell, a quality, which without artificial means, it is impossible long to preserve. They are prone to absorb odors and flavors, and therefore must be carefully protected. A newly laid egg, left in mahogany shavings, will shortly acquire a flavor that will prove quite disagreeable to the taste; and it is well known that musty straw speedily imparts a very unpleasant flavor.

Eggs may be preserved by greasing the shells, or by immersion in a thin mixture of lime and water, the whole being contained in a glass vessel well corked and cemented. By this process they have been kept perfectly fresh for six years. Let newly laid eggs be put into jars also, and packed with raspings of bread, being corked and luted, and exposed in a water both to the temperature of 200 degrees F., and in six months they will be as fresh as ever. Eggs may also be preserved by packing them into pots and covering them with melted butter or lard. In this state they will keep a long time, but the method is expensive. Some eggs preserve by packing them in salt.—These modes probably act by excluding the air, an agent which greatly promotes putrefaction. However close the shell of an egg may appear, it is, in reality, very porous; for if an egg be laid on the naked fire, and attentively watched, the albumen may be seen forcing its way through the pores before the shell bursts. At Herculanum, eggs shells were found perfectly unbroken, yet empty, which proves that the contents must have evaporated through the pores. It has also been proved by experiment that eggs sensibly grow lighter by being kept. In Scotland it is common to preserve eggs by dipping them into boiling water, in order to destroy, as is said, the vital principle; but, more probably, to coagulate a stratum of albumen next the shell, and thus to obstruct the entrance of air through the pores.

Sowing Small Grain.

[FROM THE AUGUSTA CONSTITUTIONALIST.]

Read, July 14th 1838, before the "Agricultural Society of Richmond County," and published at their request, by Dr. J. G. M'WHORTER.

Extract from the Minutes.

On motion of Judge Scheley, *Resolved*, That the thanks of the society be presented to Dr. M'Whorter for his scientific and practical communication upon the subject of sowing small Grain, and that a copy be requested for publication in the papers of Augusta.

It is believed that great improvements may be made in our agricultural operations not excepting our two most perfect cultivations, Cotton and rice, which are supposed to have reached the *ne plus ultra* of improvement. We at the South are greatly behind the age in every thing relating to the cultivation of the earth, the great employment which supports the human race, and indirectly the mass of animal ex-

istence. So important an employment of man deserves his serious attention, and should engage his best exertions for its improvement. To contribute our mite to this great object was the motive which led to the formation of the *Agricultural Society of Richmond Country*, and no citizen who has witnessed, or can conceive the different aspects of a well cultivated and a neglected country, could hesitate to assist in extending a more general knowledge of the principles of agriculture and its improved operations. With that view, the writer has hastily, (in the absence of a regular report from the *Board of Agriculture*,) drawn up this paper, not with the expectation of imparting any thing new, but with the hope of calling greater attention to the best mode of putting into the earth, wheat, oats, and grain of all kind, and the principles which demand and justify it.

These three maxims hold universally true in agricultural operations.

1st. What is worth doing at all is worth doing well.

2d The best ploughing a crop gets, is which it receives before it is planted.—And,

3d. A crop well put in, is half made.

As a universal rule, the first thing to be done, allowing the ground to be fertile enough, is to break it up well, having it soft and pulverized to a depth proportioned to the depth of the soil. The next thing is the proper disposition and inhumation of the seed. With regard to the preparation of the soil, as it is believed all understand the necessary operations, I shall say nothing, but confine my remarks to the disposition and inhumation of the seed, and the reasons for such directions as shall be given in regard to these operations.

The ground should be harrowed and levelled, and the surface pulverized to the depth of at least two or three inches, before sowing the seed, which will then lie more evenly and regularly distributed, without falling in masses into open furrows and indentations in the surface, thus throwing too many seeds in one spot, while other places have none at all, or not their proper proportion. The seed sown should be covered with the harrow alone, and the levelling process previously executed will prevent the harrow from throwing the seeds from a ridge on which they might lodge, into the adjoining hollow, where they will be too thick to be productive of abundant heads. If from the great inequality of the surface, an equal distribution of the seed is supposed not to have been effected, the harrowing should be repeated in the opposite direction; indeed this cross harrowing it would be well to repeat in all cases, so that if the harrow teeth are not too far apart, the seed will be placed in relation to each other at such distances, as, by a proper distribution, will ensure a full occupation of all the land, without those inequalities, which are otherwise almost inevitable, and which by crowding particular spots allow the farmer but a moderate return of straw without grain.

These remarks, it is hoped, are so far intelligible. They are designed to show, that it is important to procure an equal distribution of seed over the land, which cannot be done, if sown on an unlevelled surface, and without double harrowing to separate the seeds which have fallen too many in one place, and into the furrows made by the teeth of the harrow in the first operation of covering. This second operation, if the harrow has teeth not far from each other, cuts the field in small squares, each of which has its portion of seed, without any part having thrown on it more than it is able to nourish.

The next direction in the process, and on which the principal improvement depends, is to *cover the seed shallow*, which cannot be done with the plough. The plough besides, throws the seed into furrows, and although most of the seed fall only half the depth of the furrow, yet many reach the bottom and are thus covered so deep, that they either never come up, or reach the surface at so late a period, that its pasturage is already occupied by more thrifty competitors. Thus there is a waste of seed, and the production of weaker plants, which, either pine till they die, or lead a sickly existence, entirely without fruit or with an imperfect product. What more could be rationally expected from the too common way of putting in the oats crop? The owner scatters in the fall or spring, his seed over the unploughed surface of some fallow field, beat hard by the year's rain and the feet of his cattle, and finishes the slovenly process by once ploughing it, leaving it uneven and cloddy, and the seed covered by long slices of the tough surface, through which it will be very difficult to penetrate.

The direction *to cover shallow*, is indefinite: It should be more explicit, and for this purpose an inch may be indicated as about the proper depth. This is the rule of Nature, but she was so abundant in the production of seeds, and intends in her beneficence so many of them for the consumption of her creatures, that loss of seed is thus part of her maternal intention, and an immense proportion is, therefore never covered by the earth for re-production. These are either consumed by animals, or exposed to the sun's heat without sufficient moisture decay and are lost to the re-productive process. Those however, which are more fortunate, and are covered by the animal foot, rain, or any other accident, strike their roots near the surface, and there alone enjoy the benefits of moisture, air, solar heat, and light, which are all essential to their healthful and productive existence. Now what are facts in this regard?

If you examine the roots of any of the grains mentioned, you will find that those plants are the most thrifty, whose germination took place near the surface of the soil, while the weakly looking plants have sprung from a depth of three or four inches. The latter continue weekly, branching little or none, while the former throw out additional shoots from the root, and multiply the production more than an hundred fold. The deeply covered seeds are eight or ten days later in appearing, and their further growth is delayed, not simply by the existence of stronger rivals for the pasturage, but they stop when they approximate the surface to take that start which Nature intended for them at first. Within an inch of the surface they shoot forth new roots, and all below, down to the seed, shrivels and dies, so that the future plant depends alone for nourishment on those sets of organs, which it has developed in proximity with the surface, where it can receive the direct influence of these essential agents, moisture, air, heat, and light. This process still farther delays its taking a vigorous stand among her more fortunate competitors, who were from the first placed more within the reach of those salutary agencies. But many of these deeply covered seed are never able to send up their shoots to the surface at all—they perish below. And why? Because Nature having allowed only a certain quantity of nourishment from the embryo, *that* is exhausted before its stalk reaches the surface, where its leaves derive a new and additional nutriment from the atmosphere. The roots only form near the surface, that are to give

permanent nourishment to the future plant, so that as they are not formed, the plant cannot yet be nourished by their activity in the soil.

The nourishment, then intended for the germination of the leaf and the first roots being exhausted before the young plant can reach its store-house above the surface, it must necessarily perish for want of sustenance, and thus disappoints the hopes of the husbandman.

I wish to be understood. When you plant your corn, potatoes, &c. you do not imagine the whole mass of seed, the whole potatoe or grain of corn, constitutes the embryo of the future plant. No, the living point which contains the rudiment of the future plant, is very small generally speaking, a mere *point*, and the mass of substance in which it is imbedded is the nourishment which provident nature has stored up for its support, before it is able to seek its stores in earth and air. The yolk of the egg is a similar provision for the chicken, before it is hatched, and for the short period of helplessness which succeeds its birth. While the little prisoner is exhausting this store, its wants and instincts urge it to seek that liberty, the desire of which is *not born with us*, nor confined to animal existence alone, but urges even the vegetable creation before its struggling embryos have assumed their forms of beauty in the outer world.

There is another reason, why many deeply-covered seeds perish. Moisture and warmth produce in the germinating seed a fermentative process, which evolves carbon in quantities sufficient to overpower the germinating energy, if the quantity is not lessened by combination with the oxygen derived from the atmosphere. If the seed, then, is buried too deep for the influence of the atmosphere on the chemical process going on in germination, the embryo is destroyed, and the husbandman disappointed in his hopes. The carbon thus formed, however necessary that article may be to the future growth of the plant, would be fatal to the germ, if its superabundance were not combined with the oxygen of the atmosphere. This combination yields the carbonic acid gas, delivered in the germination—the very same gas which bubbles up through the beer tubs of the distillery, and derived in the same way from the fermentation of the farinaceous matter of the seeds used in such establishments. The oxygen gas of the atmosphere is moreover essential to even this fermentation; for seed planted so deep, as to be beyond its reach, will lie dormant for years, if kept dry, but still capable of continuing the species on the accession of heat, moisture and air. This seclusion of the air is the reason why seeds come up so badly, if, after sowing, the surface of the earth becomes muddy after a rain, and hardened into a close crust.

With regard to other matters connected with this subject, time of sowing, &c., our time will compel brevity. We think all small grain should be sown the first or second week in October. Local situations will, of course, modify all general rules. For instance, in situations subject to a superabundance of moisture, the plants would be liable to be frozen—a result the more probable from the spewing up of the earth by the frost, and thus more exposing their roots to the severity of the winter. But when the crop thus early sown escapes injury, its product is much more heavy and perfect; and it furnishes the farmer an earlier supply by a month, at a season, when his stores have diminished to a scanty supply. Our wheat should never be sown later than the middle of October. It would be better if sown in the middle of September, and then its risks are nearly reduced to one, the danger of a

late frost in the spring.* It would ripen before those diseases occur, which are aggravated, if not produced, by those moist hot periods so common to our vernal season.—All the successful producers of wheat those who in the language of their neighborhood, *never failed*, it will be found on inquiry, have invariably in every instance, sown their seed from the middle of September to the middle of October, according to seasons. Wheat should not be sown on a fresh manured field; it is a plant of delicate taste and suffers from gross living. But after other plants, corn for instance, have fed on the manure, and used its grosser parts, then wheat may be grown advantageously, without the risk, which a soil, rank with animal substances used for manure, invariably incurs in this crop. Rust and blasted heads are almost uniformly the consequence, particularly if the last of April and May are hot and wet.

The Mulberry.

[FROM THE YANKEE FARMER.]

Linnaean Botanic Garden. }
Flushing, N. Y. March 20, 1838. }

DEAR SIR:—We think the culture of the *Morus Multicaulis* tree so important as regards the silk manufacture, that the introduction of seedling varieties of that tree possessing all its excellencies, but of a much hardier nature and consequently well suited for extreme northern latitudes, is a subject of no common interest.—During the autumn of 1836 we wrote to numerous foreign correspondents touching the choicest varieties of the Mulberry. Among the number one of them distinguished in the Horticultural annals of Europe for his scientific attainments, made known to us that he had by intermixture of the *Morus Multicaulis* and the *Dandolo* Mulberry obtained numerous hybrids, remarkable for their rapid growth, luxuriant foliage of the most succulent nature, and also for their extreme hardihood. He was also kind enough to accompany this interesting communication with an assortment of the trees. These were received in good order in April last, and were immediately put in a course of propagation, and by skilful management have been increased to eight or ten thousand trees, and the shrubs have all been recently made into cuttings for the present spring planting. The numerous visitors to our establishment had their attention invariably arrested by the extreme luxuriance and size of the foliage of these trees, although they were in no case pointed out to them as new and distinct. The cuttings and layers formed roots even more rapidly, and they were also more numerous than on the *Morus Multicaulis*. We shall have none of these trees for sale until the ensuing autumn, but we thought some notice might be satisfactory.

Another variety introduced by us the last spring is the *Morus ex-*

* There were two heavy frosts on 13th and 20th April this year, which killed down to the earth the early corn, but which appeared to have no effect on the wheat. One portion of my wheat crop was sown on the 17th September, and the other on the 8th November. The former had not a particle of rust on its straw, which was bright and healthy to perfect maturity—the latter was slightly touched, but at a period too late to effect it much.

pansa. It is a variety of great merit, the leaves very large, the surface smooth, and of a glossy dark green hue. Its growth is vigorous, the wood strong, and of the most hardy nature. We have 15,000 of these trees that have been out the present winter and in no case is the wood the least injured.—The worm when it has attained some size, seems more fond of the rich, fleshy, succulent leaves of this variety than of any other that has been in use among us, and they are peculiarly well calculated to fatten and give strength and vigor to the worm. A distinction seems now to be pretty generally made in feeding the worm, between leaves that are perfectly smooth and those whose surface is hairy, as the worm is partial to the former and averse to the latter.

Yours very respectfully,

W. PRINCE & SONS.

Ring Bone in Horses.

[FROM THE NEW-ENGLAND FARMER.]

MR. EDITOR—Are we not individually called upon, when we become acquainted with any facts, which, by a more extended diffusion, will promote the interest and welfare of those around us, to make known the same to the public.

Feeling this to be a duty, I would direct the attention of all gentlemen who are raising horses to that distressing complaint called ring-bone.

Having in the early part of life, paid considerable attention to raising horses, but finding them subject to so many complaints, and especially that of the ring-bone, I was much discouraged in the enterprise, and was led to ascertain if possible the *cause* of the complaint and if any *remedy* could be found. From the information that I could obtain from different authors on the subject, and from my own experimental knowledge of the complaint, I was led to conclude that there were various causes for the complaint; that colts which are kept confined in a stable and the floor cleaned off daily, are more liable to be effected with it than those that are kept on the ground or on floors well littered. Low keeping by weakening the joints has a tendency to produce them. In young horses they are generally occasioned by sprains which are made by being rode or drove too hard—by running in the pasture or leaping fences.

After hearing the above statement as to the causes, the reader may with propriety inquire, what composes the ring-bone, and from whence it originates.

In answer to this inquiry, I have found it to be composed of the Cynovia or juices of the ankle or fetlock joint, which, by some of the forementioned causes, is made to flow or leak from the joint; and is at first conveyed into a small sack in the back part of the fetlock joint; from thence it is conveyed by two small tubes to each side of the foot where it gradually forms the callous or ring-bone.

For the last thirty years, I have been in the habit of performing an operation which prevents the ring-bone from increasing in size, and if not lame previous to the operation the animal never after becomes lame, in consequence of the ring-bone; but if lame previous to the

operation, a period from one to twelve months is required for the recovery, much depending on the time which the animal has been lame.

The operation is performed in the following manner. I first shear off the fetlock, then make an incision through the skin and extract the sack above mentioned, at the same time taking care to destroy the communication from the joint to the ring-bone, by cutting off the tubes or conveyers from the joint to the ring-bone,

If the aforesaid operation is performed skillfully, the horse is as fit for use in one week as before.

ZECHARIAH CONE.

Hebron, Conn., April 2, 1838.

Sir John Sinclair.

[FROM THE GEORGIAN ERA.]

SIR JOHN SINCLAIR, the son of a gentleman of fortune, in the county of Caithness, Scotland, was born in 1754, and received his education at the high-school and university of Edinburg. Having obtained some knowledge of civil law, under Professor Millar at Glasgow, he enrolled his name as a member of the College of Advocates; but coming into the possession of a large paternal inheritance, he turned his attention to politics, and, in 1780, was elected member of parliament for his native county. He was strongly opposed to the American war, and to Mr. Fox's India bill; and, before the end of the session, published several works that displayed many just and original notions on the politics of the day. His treatise on the subject of a reform in parliament produced a particular sensation, and gave rise to several answers, the best of which is said to have been written by Lord Camelford. In 1783, appeared his *Hints on the State of Our Finances*; which had the merit, or, as some may think, the demerit, of being the first publication asserting the ample resources of the nation. In the following year, he produced his *History of the Public Revenue of the British Empire*, in two volumes quarto, to which he afterwards added a third volume and of which several editions were published. On the dissolution of parliament, he stood a contested, but unsuccessful, election for the Scotch burghs of Kirkwall, and was, in consequence, furnished with a seat by Mr. Pitt, who, in August, 1786, also procured him a baronetcy. In the following year, he printed his work on the *Laws of Elections for Scotland*; and during the great contest on the subject of the regency, in 1789, he joined the opposition in supporting that measure. His conscientious hostility to this, and some subsequent views of government, in reference to a war with France, offended the minister to whom he owed his place, and who shewed his displeasure, by procuring Sinclair's removal from the chair of the Board of Agriculture, of which he had been appointed first president. He had been for some time trying to establish, under his own superintendence, a society for the improvement of agriculture; but, having applied for an allowance from government to support it, the sum of £3,000 a year was granted, and the whole became a government job. In 1790, appeared his *Report on the Subject of Shetland Wool*; and, at the general election of that year, he was a second time returned member of parliament for

Caithness; which, with the exception of one session, when he sat for Petersfield, in Hampshire, he continued to represent until 1812. He then retired from parliament in favor of his son; and, about the same time, was appointed receiver-general of the customs for Scotland, a situation he continued to hold for several years. Besides the works before-mentioned, he is the author of *Observations on the Scotch Dialects*; a *Statistical Account of Scotland*; *An Account of the Origin of the Board of Agriculture*; *Essays on Various Subjects*; also *Hints on Longevity*; *Code of Health*; on the Cause of Blight; on the Husbandry of Scotland; *The Code of Agriculture*; and several political and agricultural treatises of minor importance. Sir John Sinclair has the merit of having, in the above very useful and ingenious publications, opened the way to many important and beneficial results in financial and agricultural science. Whilst in parliament, he seldom spoke; but some of his speeches, which have been published on particular occasions, shew that when he rose to address the house, no one could express himself more to the purpose.

Sir John Sinclair married, first, in 1776, Sarah, daughter of Alexander Maitland, Esq., of Stoke-Newington, by whom he has issue one surviving daughter; and, secondly, in 1788, Diana, youngest daughter of Alexander (late Lord) Macdonald, and sister of the present lord, by whom he has six sons and six daughters.

On Taming and Breaking Steers.

[FROM THE GENESEE FARMER.]

MR. TUCKER—The value of the ox may be felt or realized in all conditions of life.

"That our oxen may be strong to labor, neither breaking in, nor going out," said the shepherd of Israel. "Where no oxen are, the crib is clean; but much increase is by the strength of the ox," said the wise man.

The usefulness of the ox depends in a great measure on his treatment at the time of breaking. I have heard it frequently said and also recommended in the *Genesee Farmer*, that the best time for breaking steers, was to take them when young, even when calves, and accustom them to the yoke. And as a pastime and amusement for boys, calves and young steers may be taken, and made to bow to the yoke and perform their daily labor. To this practice I am most decidedly opposed, and from my experience can unhesitatingly say, that it injures the growth and strength of the animal, is productive of bad habits, and is a waste of time, and that no material benefit can be obtained from them in that young and feeble state. A person conversant with the natural propensities and habits of this animal, will discover, that when young, they are active and quick in their motions, sudden and irregular, and not in conformity to the steady and slow movements of a team at the plough. They have not strength to move any load when alone, and will soon attempt to get the advantage of each other, and like scales in the balance, are never *even*, and of no use in a team with older oxen. These irregular movements, once acquired, generally continue through life—their size and strength become impaired, and they are never kind and easy in the yoke. It is most generally the case that boys and young men without judgment first take them

in charge, and commence with whipping and beating them. Now, says the manager of the scene, you must let them know that you are not afraid of them, and to prove his courage the captive animals must be boldly assailed and severely beaten. Thus cruelly treated and frightened, they attempt to run away—are learned to turn their yoke, made wild and not easily again taken. In this way, half the value of the animal is destroyed by the ignorance and cruelty of indiscreet managers.

I have occasionally purchased oxen broken when young, yet never found them kind, steady and good, as those of my own breaking. My practice has been never to take them until the winter or spring when three years old, but generally when four years old, as they get somewhat gentle during the winter, and when I can best attend to the business. I carefully get them into a stable, (one at a time generally,) taking care not to frighten them, put a rope about their horns and make them fast in a stall together, placing them as they are to work in the yoke; this I do in a gentle manner. I then feed them, let them remain 3 or 4 days, taking water to them, and as soon as possible rub and curry them, feed, salt, &c. occasionally, but not to be full fed; thus coming to them with messages of kindness, they soon forget fear, which is the first object to be attained. If hungry, your visit is the more welcome. I then put the yoke on them, keeping them tied as before in such manner that they can lie down. They soon become familiar with the yoke, and consult their own ease and stand square, fixed in their proper places. Thus in one week I have taken a wild yoke of steers, and with no extra attention except carrying water to them, have made them as gentle and stand as easy as a yoke of old oxen; by this time they, like a horse, become halter broke, and taking off the yoke, (if the door is narrow,) I led the off one out, tie him in the yard, then take the other one out in the same manner, tie them together, and put on the yoke again. If the master one is not inclined to be vicious, I let them run in the yard in the yoke. If the master steer finding himself yoked with his mate, attempts to horn him, in this case they will want watching. The first object to be attained is to eradicate fear from the animal, and to impress him with the belief that you approach him with kindness. He then becomes very docile, and seems to take a pleasure in being obedient.

When the steers are easy in the yoke, I next put an old yoke of oxen before them, and with one man to drive the yoke of oxen and one to drive the steers, taking care to make the steers move simultaneously with the oxen, so that the yoke may not be drawn over their horns, in which case the steers will start back and become frightened; I then drive them about a while and hitch them to a light log and keep them in motion, or if I have two yoke of steady oxen, I put the steers between them and go to work. I have taken a yoke of steers from the stable for the first time put them between two yoke of steady oxen, gone to the plough-field and done a full day's work with the team; they soon learn to draw and keep to work and in general are tame to yoke and unyoke, if no severe whipping is used.

In yoking them after this drill, I have usually put them in the rear of the oxen which led them, and in a corner of the yard, and have then put the yoke on with ease.

I am fully convinced that steers taken to break at three or four years old, make better oxen than at any other age. Their motions

are more firm and steady, and time better with older oxen; they have strength to move the load, and are spirited and endure longer. I have had them good and useful at fifteen years old. It frequently occurs that the ox cannot work in the hottest days of April and May. The farmer of observation can easily tell when the ox is in danger of being heated, and when it is necessary to stop work. But usually the strength of the ox, and his ability to endure the heat of the spring, very much depend upon the quality and quantity of his food. The farmer who gives a pair of oxen comfortable stalls in winter, and the proportion of grain or meal which is usually given to a pair of horses, has little cause to complain of the effect of heat. Perhaps no part of the farming art is less understood, than the training and driving a team of oxen or horses. Few laborers are skilled in driving a team. The whole business of many drivers, is usually to beat them and to shout so loud as to heard half a mile or more, without using the language and motions which a well trained team could understand.

MICAH BROOKS.

Brooksgrove, N. Y. March 20, 1838.

Treatment of Wounds on Horses.

[FROM THE FARMER'S CABINET.]

Having seen a communication, extracted from the Maine Farmer, requesting information in regard to the treatment of wounds on horses, and having had some experience in the value of the following remedy, I confidently recommend its use. It is a solution of saltpetre and blue stone. The saltpetre should be first dissolved in warm water, in such proportions as to be moderately strong to the taste, and blue stone added, until the solution is slightly tinged. This and nothing else, is to be used as a wash, two or three times a day. It purifies the wound, destroys proud flesh, produces granulations immediately, and heals the worst wounds in a surprisingly short time. I have had horses badly kicked and otherwise hurt, in mid-winter, and mid-summer; their cure was equally rapid, and afterwards no scar was visible. The wound requires no covering—flies will not approach it, and dressing it with a small mop of rags, tied to a stick, is very little trouble. Wounds do not require to be sowed up under this treatment at least I never saw any advantage from it, as the stitches uniformly have torn out. The skin will approximate as the wound heals.

PART III.

MISCELLANEOUS INTELLIGENCE.

Friction of the Air—Spinning of a top.—Mr. R. Roberts, of Manchester, stated at the British Association, that in 1824 he contrived a machine to enable him to ascertain the amount of friction, but without reference to the resistance of the atmosphere, and he found that as the velocity increased, the friction rather diminished. He was convinced, however, that the resistance of the atmosphere should be taken into consideration, and in proof, he stated that on one occasion, he was on the Manchester Railway in a hurricane, blowing in the direction of the railway, and so violent, that the power of the wind was sufficient to move the carriage even without steam. In this way he passed on at such a speed as to completely neutralize the effect of the hurricane—the effect generally was that of a calm. The observation of the President on the pendulums of astronomical clocks, reminded him of a curious circumstance which had come, some years since, under his observation, and was another proof of the resistance offered, under certain circumstances, by the air. Having made a top, which spun for forty-three minutes, he was requested to make another for a friend—this he did, and to give it a handsome appearance he had it lacquered, and then found it would spin only seventeen minutes; he accordingly removed the lacquer, and then it spun for thirty-seven minutes. Mr. Hawkins, in confirmation, observed, that inconvenience having been experienced from the resistance of the air on a fly wheel, he had greatly diminished it by reducing the surface of the revolving bodies. Mr. Hardman Earle said, he remembered, that during Dr. Lardner's experiments, at one or more of which he was present, the steam was blown off, and he mentioned several facts, growing the great irregularity in the performance of the same engine under circumstances apparently similar. Dr. Lardner remarked, in conclusion, that he was convinced that the amount of friction could not be much greater than that now deduced, since the adhesion was found to be within a very small fraction of the theoretical adhesion:

Mr. Hawkins mentioned, at the British Association, that in the same individual there was frequently a great difference between the left and right eye; he knew a case where the focus of one eye was thirty-six inches, and that of the other only three.

Dr. Lardner corroborated Mr. Hawkins' statements, and gave the instance of Professor Airy, who had found that he was differently short-sighted in different directions; in fact, that his eye partook of the character of a spheroid, not of a sphere, and he accordingly got glasses ground on a spheroid, which perfectly suited him.—*London Mec. Mag.*

Browning Gun Barrels.—Mr. Ettrick submitted to the Section of the British Association, a paper on browning gun barrels. After various experiments, Mr. Ettrick discovered that the process consisted wholly in procuring a permanent per-oxide of iron, and then coloring such oxide. He had procured not only all shades of brown, but a perfect black, by mixing 1 part of nitric acid with 100 parts of water, and applying this to the barrel with a rag moistened with it. It is material that the rag should be only so much wetted as to damp the iron, for if the fluid be allowed to stream, the oxidation will be unequally performed. It is also material that the barrel should be well smoothed and polished, and all greasiness removed by chalk before the browning commences, otherwise a bright brown is not attainable. The barrel, after being wet, should be placed for an hour or more in a window on which the sun shines, and when this process has been thrice repeated, the superfluous rust must be removed by a scratch brush, consisting of a

quantity of fine iron wire tied up into a bundle. This process being repeated eight or ten times, the barrel will have acquired as good a brown as it frequently receives from the common gunsmiths; but to do away with the disagreeable rusty appearance, it is necessary to proceed to color the oxide, which Mr. Ettrick accomplishes by dissolving one grain of nitrate of silver in 500 of water, and applying this solution like the browning liquid. The number of repetitions of the nitrate of silver water would depend on the shade of brown required, but Mr. Ettrick found from one to five or six amply sufficient. The barrel is to be placed in the sunshine to obtain a dark color. The last process was to apply the scratch brush freely, though lightly, and then polish the whole by bees' wax. Mr. Ettrick had, since the date of his own invention, discovered the process used by workmen generally, and long kept secret, but by the plan described, a much finer brown is attainable than that gained by the trade.—*Lon. Mec. Mag.*

Lime as a Manure for Potatoes.—Some things have already been said and done on the subject of using lime in raising potatoes. The experience of the friend whose name is attached to the statement below, goes to recommend at least an experiment. Will not the quality of potatoes be improved by the use of lime, as well as the quantity increased?

Waterford, Jan. 1, 1838.

Respecting the use of lime in raising potatoes, I can make no accurate statement,—as I was not at home when my hands commenced digging those that were limed—but as near as I can calculate, I obtained something like 100 bushels more for making use of about six bushels of slacked lime, in the following manner: I had about a half a pint of lime placed in the hill, and had the potatoes dropped on it, and pressed them down gently with the foot before covering. I was led to try the experiment by seeing the effect produced by some lime that had been used in a tannery, being put into the hulls of some potatoes.

JOHN IDE.

[Vermont Telegraph.]

Why Cream collects on the surface of Milk.—When a vessel of milk is allowed to remain a certain time at rest, it is observed that a stratum of fluid will collect at the surface, differing in many qualities from that upon which it rests. This is called *cream*; and the property by which it ascends to the surface is its relative levity; it is composed of the lightest particles of milk, which are in the first instance mixed generally in the fluid; but which, when the liquid is allowed to rest, gradually rise through it, and settle at the surface. [Dr. Lardner's Cabinet Cyclopædia.—*Hydrostatics and Pneumatics.*]

Two Rules for Ploughmen.—The breadth of the furrow-slice should correspond with its thickness, and be in the proportion of three broad to two deep. This is necessary in order that the furrow may be suitably and handsomely laid. If the depth is in greater proportion, the furrow-slice will not be turned over enough, and will be apt to rest on its edge; if it is less, the furrow-slice will be turned too far; for

The furrow-slice should not be completely turned over, and laid flat, except where it is to be sown with grass seeds, but made to rest in a sloping position against a previous one. If flat, the soil is less pulverized, less permeable, more subject to be injured by water, than if laid sloping. In this way too the greatest surface is exposed to the atmosphere, which is calculated to ameliorate and mellow the soil. A stiff clay, or a tough sward, is but little benefitted by the plough, if laid flat. It soon becomes almost as compact as it was before it was turned over. The same takes place if the soil is wet, or heavy rains follow.—*Cultivator.*

Weevils.—It has long been known that one of the best methods of keeping off the larvæ of the moths that are so destructive to woolen garments, was to place in the drawers or closets where the woolen cloth or garments were deposited, locks of unscoured or raw wool, as this state of the article was so offensive to them as to drive them away speedily. Accident has shown, that it is equally effectual in destroying the grain weevil, but in a different way. A French farmer happening to place some sheep skins with the fleece on, in a corner of a granary in which there was a large quantity of grain, he was not a little surprised to find them in a few days covered with dead weevils. He repeated the experiment several times with the same success. At length he ordered his grain to be stirred up, and not a single weevil remained in it. It appears, therefore, though the cause has not been ascertained, that raw or *greasy wool*, when in the neighborhood of weevils, attracts and destroys them.—*Gen. Far.*

The Cucumber.—Has been found to contain, on analysis, no less than 582.80 parts of water in 600; the remaining 17.20 parts consist of 13 different ingredients, in different proportions, the principal of which are, a fungous matter similar to the mushroom, and a sweet substance, which gives to this fruit its peculiar flavor.—*Mech. Mag.*

TRIBUTE OF RESPECT.

At a special meeting of the Agricultural Society of South-Carolina, convened at the house of the President, on Thursday, the 30th August, the following preamble and resolutions were unanimously adopted:

Mr. President.—We have assembled with feelings of deep emotion, to pay the last tribute of respect to the memory of a member, who united the influential qualities of the head, with the engaging virtues of the heart. In paying this respect to the memory of Mr. JAMES CUTHBERT, we are only liquidating a debt due to the many benefits and pleasures which he conferred upon our Society. It was the good fortune of our lamented friend, to receive at an early period of his life, all the enriching advantages of a classical education, at one of our most ancient and distinguished Universities, where he cultivated those powers of mind and that moral discipline of heart, which enabled him, after entering on the world's wide stage, to establish permanently the character of a highly honorable gentleman and useful citizen. He gave a clear judgment, resting on the basis of industry, to the discovery, elucidation and enforcement of the principles auxiliary to the welfare and improvement of the society, in the various departments of business to which either duty or inclination led him. Though following a retired and peaceful profession, he did not abstract his vigilant and active exertions from the higher, but more perilous concerns of State. It is, however, in the character of an Agriculturist, that the memory of our friend still hovers around us in its most natural, congenial and pleasing light. Possessing not only the theoretical knowledge of this ancient art, he had devoted the few last years of his life, to the observation of Planting, in its minute and practical details. But, like many others of our most useful citizens, the treachery of the climate forbid his accomplishment of the views, of completion of the course generously sketched, for the happiness of his numerous and growing family, the improvement of the leading interest of our staple State, and the realization of the hope of a ripe old age. It has pleased the Almighty to remove him from an enlarged sphere of public and private usefulness, but it is pleasing to think that he has left us the good man's legacy—"Much to remember, nothing to regret—but his loss."

Believing that the honor and respect paid to the memory of the deceased, for their many virtues, would be to the family and relatives of the same, an enduring consolation, after the first pangs of agony have subsided,

Be it Resolved, That the above notice, with the accompanying Resolutions, be transmitted to the family of Mr. Cuthbert.

Resolved, That they be also published in the city papers.

Taken from the minutes.

JOSEPH F. O'HEAR, Sec'y.

Communicated for the Southern Agriculturist.

Monthly Calendar of Horticulture, &c.

FOR SEPTEMBER.

Turnips.—The principle crop of turnips should be sown in this month, and as the weather is somewhat cooler and moister, there is a greater chance of succeeding than in August. For directions see last month.

Ruta Baga.—If none were sown last month, or they have failed from any cause, they ought not to be delayed any longer. Those which were sown on seed beds, or when they are too thick, should now be transplanted out where they are to remain. We have in the August number given directions for the sowing and management of this vegetable.

Cabbages.—This is the proper month for sowing cabbage seed, for to head in the spring. It is perfectly useless however, to sow any for that purpose, now, unless you can procure *European* seed. All plants from American seed, will, instead of heading in the spring, run to seed, and you will have only a crop of sprouts, instead of fine heads, which you may have calculated on. With *genuine European* seed, this misfortune will not befall you; they will nearly every one head, not one perhaps in a hundred will run to seed from this sowing, and you will enjoy them in the spring, when your less fortunate or less careful neighbors are obliged to be content with sprouts only. Continue to transplant out cabbage plants, they will make fine heads during the winter.

Spinage.—You may venture to sow a larger quantity of spinage in this month; they are however still liable to the attacks of worms.

Cauliflower and Brocoli.—If you have plants, do not delay to transplant them out now; they will not flower before spring, but if they escape the cold weather, they will form fine heads, if properly managed. We refer to the previous numbers for directions.

Carrots, Salsafy and Beets.—There is more prospect of succeeding with these vegetables in this month than the last. For directions for their culture, see August.

Lettuce.—Transplant out your lettuce plants from those sown last month, as they occupy but small space. You may plant them along the borders of your beds, but should you prefer to have them by themselves, you must make up your beds 4 feet wide. Make it very rich, and set your plants in rows 12 inches apart, and 6 inches from each other in the row. The large varieties will require more space than this. Sow more seeds, as from this sowing your principal supply for the winter must be derived.

Endive.—This vegetable is very little cultivated in the neighborhood of Charleston, but some persons are very fond of it. It may be sown now, and as soon as large enough, transplanted out, setting the plants 12 inches each way.

Onions and Leeks.—Sow seeds of onions now, and leeks now, and as soon as large enough, transplant them out where they are to remain. (See last month.)

Snap Beans.—If a supply is wanted, more may be sown this month, and if the weather be mild in October, a tolerable crop may be obtained.

Celery.—Continue to earth up your celery, always performing the operation in dry weather, and taking care that none of the earth falls into and among the leaves, which would cause them to rot, if not to rot.

Radishes.—Both the winter and summer varieties of radishes may be sown this month, the latter every fortnight.
